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Attorneys for Defendants

BROOKDALE SENIOR LIVING INC.

BROOKDALE SENIOR LIVING COMMUNITIES, INC.

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA, OAKLAND DIVISION

STACIA STINER, et al.,

Plaintiffs,

v.

BROOKDALE SENIOR LIVING INC. et al.,

Defendants.

Case No. 4:17-CV-03962-HSG (LB)

**DEFENDANTS' RESPONSE IN  
OPPOSITION TO PLAINTIFFS' MOTION  
FOR CLASS CERTIFICATION EXHIBIT  
417-A**

# **EXHIBIT 417-A**

02/28/22

Sheldon H. Jacobson

**SHELDON HOWARD JACOBSON**

Founder Professor of Computer Science  
 Director, Simulation and Optimization Laboratory  
 Director, Institute for Computational Redistricting  
 Director, Bed Time Research Institute  
 201 North Goodwin Avenue (MC-258)  
 University of Illinois  
 Urbana, IL 61801-2302  
 (217) 244-7275 (Office)  
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[twitter: @shjanalytics](https://twitter.com/shjanalytics)

**SUMMARY**

Sheldon H. Jacobson is a Founder Professor of Computer Science, Director of the Simulation and Optimization Laboratory, and Founding Director of the Bed Time Research Institute at the University of Illinois at Urbana-Champaign. He holds appointments in Industrial and Enterprise Systems Engineering, Electrical and Computer Engineering, Mathematics, and the College of Medicine. He has a B.Sc. and M.Sc. in Mathematics from McGill University and a Ph.D. in Operations Research from Cornell University. He has served on the faculties at Case Western Reserve University (Weatherhead School of Management, 1988-1993), Virginia Tech (Industrial and Systems Engineering, 1993-1999), and the University of Illinois (1999-present). He served as a Program Director at the National Science Foundations (Engineering Directorate) from 2012-2014.

He has published 198 peer-reviewed articles, 11 book chapters, 50 conference proceeding papers, over 220 professional/editorial publications, and delivered over 510 presentations, seminars and posters at conferences, universities, and research laboratories around the world. He has directed 25 Ph.D. dissertations and been awarded over \$5M of research support from the National Science Foundation and the Air Force Office of Scientific Research.

As the Director of the Bed Time Research Institute, he spearheaded the creation of two research videos ("A Healthy Collaboration: Pediatric Immunization and Operations Research", "Aviation Security: Researching the Risk.") and launched three websites all designed to communicate the value of basic and applied research through Broader Impact activities, and promulgate STEM activities for enhancing and growing a technically literate citizenry.

(<http://bracketodds.cs.illinois.edu>,

<http://electionanalytics.cs.illinois.edu>,

<http://drivingobesity.cs.illinois.edu>),

He has made several seminal research contributions, all focusing on applying operations research and advanced analytics to address societal problems of national interest. He launched the research field, aviation security analytics, demonstrating how probabilistic models, optimization, and artificial intelligence can be used to improve the performance of aviation security systems. His research on multi-level aviation security passenger screening at airports was the precursor to risk-based security, providing the foundational concepts that informed the design and implementation of TSA Precheck®. His contributions have been recognized with numerous awards, including a 2003 *Guggenheim Fellowship* and the 2018 *INFORMS Impact Prize*, given biennially to recognize widespread impact of operations research. His research on the design of pediatric vaccine formularies introduced the use of operations research in the pediatric immunization domain. His research on bridging obesity, transportation, and fuel

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consumption established the impact of transportation on obesity, providing the foundation for non-medical obesity interventions based on modes of transportation. His research on computational redistricting demonstrates how optimization-based AI can be used to combat gerrymandering by creating a transparent environment for designing and evaluating district maps.

His research has been widely reported and communicated in the national press, including the *Washington Post*, the *Chicago Tribune*, the *Los Angeles Times*, and the *Boston Globe*, editorialized in the *New York Times*, and discussed in *Business Week*, *Forbes*, *Kiplinger*, and *The Osgood Files* on CBS radio. He has appeared on CNBC's *Street Signs* and *The Closing Bell*, MSNBC's *Weekends with Alex Witt*, *Washington Post Radio*, *CBS This Morning*, CNN's *Situation Room with Wolf Blitzer*, and *CBC Canada News* (television and radio), and *BBC World News* (television and radio).

He has been recognized with numerous professional awards for his research and service contributions. These include the *George E. Kimball Medal* (INFORMS) (2020), *Saul Gass Expository Writing Award* (INFORMS) (2020), *Omega Rho Plenary* (2020), *INFORMS Voluntary Service Award* (2020), *INFORMS Impact Prize* (2018), *David F. Baker Distinguished Research Award* (IISE) (2017), *Award for Technical Innovation in Industrial Engineering* (IISE) (2010, 2013), *Aviation Security Research Award* (Aviation Security International) (2002), *IIE Outstanding Publication Award* (2009), *Award for Excellence in the Teaching of Operations Research* (IISE Operations Research Division) (2011), and a *Guggenheim Fellowship* (2003). He is an elected Fellow of the *American Association for the Advancement of Science* (AAAS, 2020), the *Institute for Operations Research and the Management Sciences* (INFORMS, 2013), and the *Institute of Industrial and Systems Engineers* (IISE, 2011).

His leadership acumen and technical expertise have been sought by both government and professional societies. He briefed personnel within the Office of Science and Technology Policy (in the executive Office of President George W. Bush) on 31 August 2002, on issues related to aviation security research and the cost and benefit of checked baggage screening strategies. He briefed the Advisory Committee on Immunization Practice (ACIP) on a web-site he co-developed for designing optimal pediatric vaccine formularies at their October 2001 meeting in Atlanta, Georgia. He has served on committees for the National Academies, including the National Research Council *Committee on Airport Passenger Screening: Backscatter X-Ray Machines* (2013-2015) and the National Academy of Medicine (NAM) *Standing Committee for the Centers for Disease Control and Prevention Division of Strategic National Stockpile* (2015-2017). He led the NSF-Funded workshop (May 2016), *Setting a Broader Impacts Innovation Roadmap*, in creating new pathways for enhancing Broader Impacts in the Engineering Directorate at the NSF. He served as the (elected) Treasurer for INFORMS (2015-2016), as a panelist at the INFORMS 2019 *Government & Analytics Summit*, and as the INFORMS NSF Liaison Chair (2019-2020).

## EDUCATION

1988 Ph.D. (Operations Research & Industrial Engineering) Cornell University,  
Dissertation Supervisor: Dr. L.W. Schruben  
1986 M.S. (Operations Research & Industrial Engineering) Cornell University  
1983 M.Sc. (Mathematics) McGill University, Thesis Supervisor: Dr. S. Zlobec  
1981 B.Sc. (Mathematics) McGill University

## EMPLOYMENT

8/2006-Present Professor, Department of Computer Science, University of Illinois at Urbana-Champaign. Director, Simulation and Optimization Laboratory.

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7/2012-8/2014 Program Director, Operations Research, National Science Foundation.  
 8/2002-8/2006 Professor, Willett Faculty Scholar, Department of Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign.  
 Director, Simulation and Optimization Laboratory.  
 6/1999-8/2002 Associate Professor, Department of Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign.  
 Director, Simulation and Optimization Laboratory.  
 8/1996-5/1999 Associate Professor, Department of Industrial & Systems Engineering, Virginia Tech. Director, Simulation and Optimization Laboratory.  
 8/1993-7/1996: Assistant Professor, Department of Industrial & Systems Engineering, Virginia Tech. Director, Simulation and Optimization Laboratory.  
 7/1988-6/1993: Assistant Professor, Department of Operations Research, Weatherhead School of Management, Case Western Reserve University.

### APPOINTMENTS AND AFFILIATIONS

College of Engineering, Department of Computer Science (Primary) (2006-Present)  
 College of Engineering, Department of Industrial & Enterprise Sys. Engineering (2006-Present)  
 College of Liberal Arts and Science, Department of Mathematics (2001-Present)  
 College of Medicine, Department of Pediatrics (2006-Present)

### AWARDS AND RECOGNITIONS

University of Illinois:

Associate, Center for Advanced Study, University of Illinois, 2002-2003.  
 Willett Faculty Scholar, College of Engineering, University of Illinois, 2002-2009.  
*Aviation Security Research Award*, sponsored by Aviation Security International, International Air Transport Association, and Airports Council International, (with J.E. Kobza), 2002.  
*Best Paper Award, IIE Transactions* Focused Issue on Operations Engineering, (with J.E. Kobza and A.E. Easterling), 2003.  
*Guggenheim Fellowship*, John Simon Guggenheim Memorial Foundation, 2003.  
*Operations Research* Meritorious Service Award, 2003.  
*Award of Excellence* ("College or University" and "Video News Release" Categories) for "Aviation Security: Researching the Risk," 13<sup>th</sup> Annual Communicator's Award Competition, (with WILL-TV), 2006.  
 "List of Teachers Ranked as Excellent by their Students," IE410/CS481: Stochastic Processes and its Applications, Fall 2006, Fall 2007, Fall 2008, Fall 2010.  
 "List of Teachers Ranked as Excellent by their Students," IE413/CS482: Computer Simulation, Spring 2006, Spring 2007, Spring 2008, Spring 2010.  
 Finalist, INFORMS Health Applications Section Pierskalla Best Paper Award, 2004, 2007.  
 Semi-Finalist, Christopher Columbus Foundation Homeland Security Award, 2005, 2007, 2009.  
*Outstanding IIE Publication Award*, Institute of Industrial Engineers (with L.A. McLay), 2009.  
*Award for Technical Innovation in Industrial Engineering*, Institute of Industrial Engineers (with E.C. Sewell), 2010.  
 Finalist (Runner-Up), Christopher Columbus Foundation Homeland Security Award (Transportation and Border Security), 2010.  
 Fellow, Institute of Industrial Engineers, 2011.  
 Award for Excellence in the Teaching of Operations Research, Institute of Industrial Engineers Operations Research Division, 2011.  
 Honorable Mention, Best Paper Award, *Computational Optimization and Applications*, 2011.  
 Finalist, INFORMS Public Sector Operations Research (with D.M. King, E.C. Sewell), Best Paper Award, 2012.

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Semi-Finalist, INFORMS Innovations in Analytics Award, 2012.

*Award for Technical Innovation in Industrial Engineering*, Institute of Industrial Engineers, 2013.

Fellow, Institute for Operations Research and the Management Sciences (INFORMS), 2013.

University of Illinois Office of Public Affairs, Award for Communications & Marketing Excellence – Media Relations, 2013.

Top-5 Papers (of 149) Published in *Journal of Global Optimization* in 2012 (Sewell, E.C., Sauppe, J.J., Morrison, D.M., Jacobson, S.H., Kao, G.K., 2012, “Minimizing Total Tardiness for the Single Machine with Sequence Dependent Setup Time Problem Using the BB&R Algorithm,” *Journal of Global Optimization*, 54(4), 791-812).

Best Research Poster (First Place), Association of Program Directors in Internal Medicine (APDIM) Spring 2014 Conference, “Annual Rotation Schedules in 45 Seconds: Simplifying Life for an Internal Medicine Residency Program,” coauthored with David R. Morrison, J. Taylor Fairbank, and Janet A. Jokela.

*David F. Baker Distinguished Research Award*, Institute of Industrial & Systems Engineers, 2017.

Grainger Engineering Breakthroughs Initiative’s (GEBI) Founder Professor in Computer Science, 2017-2022.

*INFORMS Impact Prize* (with K.C. Fletcher, L.A. Albert, A.G. Nikolaev, A.J. Lee) for their contributions to risk-based aviation security and its impact on the design of TSA PreCheck, 2018.

Honorable Mention, INFORMS Public Sector Operations Research (with R. Swamy, D.M. King), Best Paper Award, 2018.

First Place, 2018 INFORMS Poster Competition (with R. Swamy, D.M. King), “Political Districting with Fairness Objectives: An Optimization-Based Framework.”

First Place, 2019 Service Sciences Best Paper Award, INFORMS National Meeting (with R. Swamy, D.M. King), “Multi-Objective Optimization for Political Districting: A Scalable Multilevel Approach.”

Fellow, American Association for the Advancement of Science (AAAS), 2020.

Distinguished Speaker, Association for Computing Machinery (ACM), 2020-2023.

Volunteer Service Award, Institute for Operations Research and the Management Sciences (INFORMS), 2020.

George E. Kimball Medal, Institute for Operations Research and the Management Sciences (INFORMS), 2020.

Saul Gass Expository Writing Award, Institute for Operations Research and the Management Sciences (INFORMS), 2020.

Omega Rho Plenary Speaker, Institute for Operations Research and the Management Sciences (INFORMS) Fall 2020 National Meeting.

Virginia Tech:

Best Paper Award, Industrial Simulation Track, 1997 European Simulation Multiconference, Istanbul, Turkey (with K.A. Sullivan, A.W. Johnson).

Application Award, 1998, Institute of Industrial Engineers Operations Research Division (with J.E. Kobza).

Dean's List for Teaching, Spring 1999.

Cornell University:

National Science and Engineering Research Council of Canada (NSERC) Graduate Scholarship (1983-1986).

FCAC (Province of Quebec) Graduate Fellow (1983-1984).

Forgivable Loan Program Award, General Electric Foundation (1986).



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McGill University:

FCAC Graduate Fellow (1982-1983).

NSERC Graduate Scholarship (1981-1983).

NSERC Summer Undergraduate Research Fellowship (1980, 1981).

Great Distinction (1981), Wolvin Scholarship (1980), Faculty Scholar (1980), University Scholar (1979, 1981), McConnell Awards (1978, 1979).

Other: Second Place in Canada, Actuarial Exam #1 (1980).

## PROFESSIONAL AFFILIATIONS

Institute for Operations Research and the Management Sciences (INFORMS) (1988-Present)  
(Simulation Society, Computing Society, Health Care Applications Section)

Institute of Industrial Engineers (IIE) (1994-Present)

American Society for Engineering Education (ASEE) (1998-Present)

Society for Industrial and Applied Mathematics (SIAM) (2000-Present)

American Association for the Advancement of Science (AAAS) (2015-Present)

## PROFESSIONAL SERVICE AND ACTIVITIES

Associate Editor, *Operations Research* (2001-2005)

Guest Editor, *IIE Transactions* Special Issue on Homeland Security (2005-2006)

Senior Editor, *Flexible Services and Manufacturing* (2007-2009)

Editorial Board Member, *Journal of Transportation Security* (2007-Present)

Associate Editor, *Int'l Journal of Applied Metaheuristic Computing* (IJAMC) (2008-2016)

Focused Issue Editor, *IIE Transactions*, Operations Engineering and Analysis (2009-Present)

Associate Editor, *Operations Research for Health Care* (2011-2012)

INFORMS Speaker's Program (1997-Present)

Reviewer, *ACM Transactions on Modeling and Computer Simulation*, *Annals of Operations Research*, *Applied Mathematics and Computation*, *Complex Systems*, *Computers and Industrial Engineering*, *Discrete Event Dynamic Systems*, *European Journal of Operational Research*, *Health Care Management Science*, *IEEE Transactions on Automatic Control*, *IEEE Transactions on Evolutionary Computation*, *2001 IEEE CSS Conference*, *IIE Transactions*, *INFORMS Journal on Computing*, *Journal of Global Optimization*, *Journal of Heuristics*, *Journal of the Operational Research Society*, *Management Science*, *Mathematical and Computer Modelling*, *Mathematical Programming*, *Mathematics of Operations Research*, *Naval Research Logistics*, *Operations Research*, *Operations Research Letters*, *Production and Operations Management*, *SIAM Optimization*, *Simulation*, *Winter Simulation Conference*.

Invited Visiting Scholar, S.O.R.I.E., Cornell University (1989)

Reviewer, McGraw Hill Book Company (1994)

Treasurer, INFORMS College on Simulation (1994-1996)

Panelist, National Science Foundation, DMI-OR (1995)

Best Publication Award Committee, INFORMS College on Simulation (1997-1999) (Chair, 1998)

Industrial Affiliate Development Committee, INFORMS College on Simulation (1997)

Reviewer, Ohio Supercomputer Center (1989, 1991)

Reviewer, FCAR (Quebec Research Support Agency) (1994)

Reviewer, Air Force Office of Scientific Research (1995, 1998)

Reviewer, National Science Foundation EPSCoR Program (1996)

Reviewer, Army Research Office (1997)

Reviewer, National Science Foundation, Probability and Statistics (1998)

Reviewer, National Science Foundation, International Programs (1999)

Panelist, National Science Foundation, Exploratory Research on Eng. the Transport Ind. (2000)

Membership Committee, INFORMS College on Simulation (2000-2002)

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Panelist, National Science Foundation, Career Awards, DMII (2001)  
 Panelist, National Science Foundation, 9/11 Panel, DMII (2002)  
 Reviewer, Interdisciplinary Contest in Modeling, Consortium for Math. & Its Applications (2003)  
 Committee Member, INFORMS George C. Nicholson Student Paper Competition (2003, 2004)  
 Chair, Best Paper Award Committee, *IIE Transactions* Focused Issue on Oper. Eng. (2003)  
 Reviewer, Cooperative Grants Program, U.S. Civilian R&D Foundation (2003)  
 Reviewer, National Science and Engineering Research Council of Canada (2003)  
 Panelist, Transportation Security Administration, Boeing USCAP Review Panel (2004)  
 Reviewer, METRANS Research Center (2005)  
 Committee Member, INFORMS Health Appl. Society, Bonder Student Scholarship (2006, 2007)  
 Participant, NSF Healthcare Systems Engineering Workshop (2006)  
 Reviewer, Centers for Disease Control and Prevention Panel Review (2006)  
 Panelist, World Technology Evaluation Center (WTEC), International Assessment of Rapid Vaccine Manufacturing Study Group (2006-2007, 2009-2010).  
 OR/MS Today Advisory Committee, INFORMS, (2007-2008)  
 Panelist, National Science Foundation, Career Awards, DMII (2004, 2005)  
 Panelist, National Science Foundation, CDI-Type I Preliminary Proposals (2008)  
 Panelist, National Science Foundation, Career Awards, CMII (2008, 2011, 2018)  
 Panelist, National Science Foundation, CMII (2009, 2010, 2011, 2012)  
 Panelist, National Science Foundation, CBET (2010)  
 Panelist, National Science Foundation, EFRI (2010)  
 Panelist, National Science Foundation, CMMI (2011) (two panels)  
 Panelist, National Science Foundation, IGERT (2011)  
 Panelist, National Science Foundation, CMMI (2012) (two panels)  
 Panelist, National Science Foundation, CMMI (2018)  
 National Science Foundation Liaison to INFORMS (2012-2014)  
 Council Member (Elected), INFORMS I-SIM (2014-2015)  
 Committee Member, National Research Council, Committee on Airport Passenger Screening: Backscatter X-Ray Machines (2013-2015)  
 Committee Member, National Academy of Medicine (NAM) *Standing Committee for the Centers for Disease Control and Prevention Division of Strategic National Stockpile* (2015-2017)  
 Treasurer (Elected), Institute for Operations Research and the Management Sciences (INFORMS) (2015-2016).  
 Member, INFORMS Speakers Program Committee (2018-2019).  
 Review Committee, INFORMS Health Applications Society Pierskala Best Paper Award (2018).  
 Organizing Committee, National Academy of Medicine Workshop: *Medical Product Shortages during Disasters: Opportunities to Predict, Prevent, and Respond* (2018).  
 Chair, INFORMS Liaison to NSF (2019-2020).  
 Review Committee, INFORMS Public Service Operations Research Best Paper Award (2019).  
 Co-Chair: Communications Group, Big Ten Alliance for Strategic Partnership for Applied Redistricting Knowledge (SPARK).  
 Reviewer, Committee Report, National Academy of Medicine (NAM) (2020).  
*Dialogue on Social Justice*, Wesley United Methodist Church (with J.A. Jokela, 2/13/2022)  
 General Chair, INFORMS 2022 National Meeting, Indianapolis, Indiana.

## EDUCATIONAL ACTIVITIES

### *Courses Taught at the University of Illinois*

IE310	Introduction to Operations Research (B.S.)
CS481/IE410	Stochastic Processes and its Applications (B.S./M.S.)
CS482/IE413	Computer Simulation (B.S./M.S.)
IE598	Special Topics in Stochastic Models and Simulation (Ph.D.)



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*Courses Taught at Virginia Tech*

ISE3414 Probabilistic Operations Research (B.S.)  
 ISE3424 Discrete Event Simulation (B.S.)  
 ISE5424 Computer Simulation (M.S./Ph.D.)  
 ISE6494 Advanced Simulation (M.S./Ph.D.)

*Courses Taught at Case Western Reserve University*

OPRE425 Probability Theory in Operations Research (M.S./Ph.D.)  
 OPRE432 Computer Simulation (M.S./Ph.D.)  
 OPRE521 Queuing Theory (Ph.D.)  
 OPRE525 Advanced Topics in Simulation and Time Series (Ph.D.)  
 QUMM403 Managerial Statistics (MBA)  
 QUMM405 Management Science (MBA)

*Courses Taught at Other Universities*

OR260 Introduction to Probability (Cornell University) (B.S.)  
 MATH111 Algebra and Trigonometry (McGill University) (B.Sc.)

*Other Educational Activities**University of Illinois*

Faculty Advisor, Alpha Pi Mu (2002-2006)

*Virginia Tech*

Advisor, MCM Undergraduate Team (1995)  
 Faculty Advisor, INFORMS Student Chapter (1995-1996)

*Case Western Reserve University*

Faculty Advisor, ORSA/TIMS Student Chapter (1990-1993)  
 Faculty Representative, Omega Rho (1990-1993)  
 Faculty Coordinator, Student Recruitment Campus Visits by Faculty (1990-1993)  
 Faculty Coordinator (joint), Dept. Student Recruitment Open House (1990-1993)

**DEPARTMENTAL AND UNIVERSITY SERVICE***University of Illinois at Urbana-Champaign*

M&IE Strategic Planning (1999-2000)  
 M&IE Advisory Committee (Elected) (2000-2004)  
 M&IE Faculty Recruitment Committee (2000-2006)  
 M&IE Social Committee (2000-2006)  
 M&IE Undergraduate Program Committee (2004-2006)  
 M&IE Department Head Search (2004-2005)  
 C&EE Transportation Faculty Search (2005-2006)  
 CS Director of Development (2007-2008)  
 CS Promotion and Tenure (2006-Present)

*Virginia Tech*

Director, Simulation and Optimization Laboratory (1993-Present)  
 University Representative, Commonwealth Connection Tour (1996)  
 ISE Department, Computers/Networks/Software (1994-1995, 1998-1999)  
 ISE Department, Positioning Plan (1995)  
 ISE Department, Personnel (1995-1999) (Chairman 1996-1999)  
 ISE Department, Mentor Program Development (1995-1999)  
 ISE Department, Promotion and Tenure (1996-1999)  
 ISE Department, SCHEV Proposal Development (Chairman) (1996)  
 College of Engineering, Numerical Methods (1994-1995)

*Case Western Reserve University*

"Alumni Fund" Graduate School Telethon (1988-1989)  
 Creator/Editor/Writer, *OR NEWS*, Department Alumni Newsletter, Issues 1-4 (1989-1993)

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Quality Management (1989-1993)  
 MBA Statistics and Management Science Curriculum (1988-1993)  
 Ph.D. Curriculum (1988-1993)  
 Seminar (1988-1991)  
 Student Recruitment (1990-1993)  
 Faculty Recruitment (1992-1993)  
 WSOM Computer Usage (1989-1993)  
 WSOM Research (1990-1992)

## RESEARCH ACTIVITIES

### *Papers in Archival Journals*

#### *Computer Simulation Methodology and Modeling*

1. Jacobson, S.H., Schruben, L.W., 1989, "Techniques for Simulation Response Optimization," *Operations Research Letters*, 8(1), 1-9.
2. Jacobson, S.H., Buss, A.H., Schruben, L.W., 1991, "Driving Frequency Selection for Frequency Domain Simulation Experiments," *Operations Research*, 39(6), 917-924.
3. Jacobson, S.H., 1993, "Variance and Bias Reduction Techniques for the Harmonic Gradient Estimator," *Applied Mathematics and Computation*, 55(2&3), 153-186.
4. Jacobson, S.H., 1994a, "Optimal Mean Squared Error Analysis of the Harmonic Gradient Estimators," *Journal of Optimization Theory and Application*, 80(3), 573-590.
5. Jacobson, S.H., 1994b, "Convergence Results for Harmonic Gradient Estimators," *ORSA Journal on Computing*, 6(4), 381-397.
6. Jacobson, S.H., 1994c, "Second Derivative Estimation Using Harmonic Analysis," *Annals of Operations Research*, 53, 507-531.
7. Jacobson, S.H., 1995a, "Analyzing the M/M/1 Queue in Frequency Domain Experiments," *Applied Mathematics and Computation*, 69(2&3), 185-194.
8. Jacobson, S.H., 1995b, "How Difficult is the Frequency Selection Problem?" *Operations Research Letters*, 17(3), 139-147.
9. Jacobson, S.H., Yucesan, E., 1995, "Intractability Results in Discrete Event Simulation," *Recherche Operationelle*, 29(3), 353-369.
10. Yucesan, E., Jacobson, S.H., 1996, "Computational Issues for ACCESSIBILITY in Discrete Event Simulation," *ACM Transactions on Modeling and Computer Simulation*, 6(1), 53-75.
11. Jacobson, S.H., 1997, "The Effect of Initial Transient on Steady State Simulation Harmonic Gradient Estimators," *Mathematics and Computers in Simulation*, 43(2), 209-221.
12. Yucesan, E., Jacobson, S.H., 1997, "The Complexity of Rapid Learning in Discrete Event Simulation," *IIE Transactions*, 29(9), 783-790.
13. Jacobson, S.H., Schruben, L.W., 1999, "A Harmonic Analysis Approach to Simulation Sensitivity Analysis," *IIE Transactions*, 31(3), 231-243.
14. Jacobson, S.H., Yucesan, E., 1999, "On the Complexity of Verifying Structural Properties of Discrete Event Simulation Models," *Operations Research*, 47(3), 476-481.
15. Vazquez-Abad, F.J., Jacobson, S.H., 2001, "Phantom Harmonic Gradient Estimators for Priority Queueing Systems," *INFORMS Journal on Computing*, 13(4), 345-359.
16. Jacobson, S.H., Yucesan, E., 2002, "Common Issues in Discrete-Event Simulation and Discrete Optimization," *IEEE Transactions on Automatic Control*, 47(2), 341-345.
17. Swisher, J.R., Jacobson, S.H., Yucesan E., 2003, "Discrete-Event Simulation Optimization Using Ranking, Selection, and Multiple Comparison Procedures: A Survey," *ACM Transactions on Modeling and Computer Simulation*, 13(2), 134-154.
18. Swisher, J.R., Hyden, P.D., Jacobson, S.H., Schruben, L.W., 2004, "A Survey of Recent Advances in Discrete Input Parameter Discrete-Event Simulation Optimization," *IIE Transactions*, 36(6), 591-600.

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19. Smith, J.C., Jacobson, S.H., 2005, "An Analysis of the Alias Method for Discrete Random Number Generation," *INFORMS Journal on Computing*, 17(3), 321-327.

*Discrete Optimization Algorithms (Exact and Approximation)*

1. Jacobson, S.H., Solow, D., 1993, "The Effectiveness of Finite Improvement Algorithms for Finding Global Optima," *Zeitschrift fur Operations Research (ZOR) -- Methods and Models of Operations Research*, 37(3), 257-272.
2. Jacobson, S.H., Johnson, A.W., Sullivan, K.A., Fleischer, M.A., Kumar, A., 1997, "Metaheuristics for a Flexible Assembly System Design Problem," *Journal of Heuristics*, 3(2), 139-159.
3. Jacobson, S.H., Sullivan, K.A., Johnson, A.W., 1998, "Discrete Manufacturing Process Design Optimization Using Computer Simulation and Generalized Hill Climbing Algorithms," *Engineering Optimization*, 31, 247-260.
4. Fleischer, M., Jacobson, S.H., 1999, "Information Theory and the Finite-Time Behavior of the Simulated Annealing Algorithm: Experimental Results," *INFORMS Journal on Computing*, 11(1), 35-43.
5. Kumar, A., Jacobson, S.H., Sewell, E.C., 2000, "Computational Analysis of a Flexible Assembly System Design Problem," *European Journal of Operational Research*, 123(3), 453-472.
6. Sullivan, K.A. and Jacobson, S.H., 2000, "Ordinal Hill Climbing Algorithms for Discrete Manufacturing Process Design Optimization Problems," *Discrete Event Dynamical Systems*, 10(4), 307-324.
7. Vaughan, D., S.H. Jacobson, and D. Armstrong, 2000, "A New Neighborhood Function for Discrete Manufacturing Process Design Optimization Using Generalized Hill Climbing Algorithms," *ASME Journal of Mechanical Design*, 122(2), 164-171.
8. Sullivan, K.A., Jacobson, S.H., 2001, "A Convergence Analysis of Generalized Hill Climbing Algorithms," *IEEE Transactions on Automatic Control*, 46(8), 1288-1293.
9. Johnson, A.W., Jacobson, S.H., 2002a, "A Class of Convergent Generalized Hill Climbing Algorithms," *Applied Mathematics and Computation*, 125(2-3), 359-373.
10. Johnson, A.W., Jacobson, S.H., 2002b, "On the Convergence of Generalized Hill Climbing Algorithms," *Discrete Applied Mathematics*, 119(1-2), 37-57.
11. Orosz, J.E., Jacobson, S.H. 2002a, "Finite-time Performance Analysis of Static Simulated Annealing Algorithms," *Computational Optimization and Applications*, 21(1), 21-53.
12. Orosz, J.E., Jacobson, S.H., 2002b, "Analysis of Static Simulated Annealing Algorithms," *Journal of Optimization Theory and Application*, 115(1), 165-182.
13. Fleischer, M.A., Jacobson, S.H., 2002, "Scale Invariance Properties in the Simulated Annealing Algorithm," *Methodology and Computing In Applied Probability*, 4(3), 219-241.
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#### *Presentation, Seminars and Posters*

Air Force Institute of Technology (1997, 2002, 2006, 2008, 2016)

Carnegie-Mellon University (1998, 2014)

Case Western Reserve University (1988, 1990, 1993, 1994, 1996, 1998-2000, 2013, 2015)

Clemson University (2019)

Cornell University (1986, 1987, 1995, 2011)

George Mason University (2002, 2013, 2020)

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Georgia Institute of Technology (1997, 2015)  
 Homeland Security Institute (2005)  
 Illinois Institute of Technology (2014)  
 Indiana University of Pennsylvania (1990)  
 INSEAD, European Institute of Business Administration (1994, 1996)  
 Iowa State University (2013)  
 Johns Hopkins University, Applied Physics Laboratory (2004)  
 Kansas University (1997)  
 Kent State University (1990)  
 Massachusetts Institute of Technology (2006, 2017)  
 New Jersey Institute of Technology (1998)  
 NASA Lewis Research Center, Cleveland, Ohio (1991)  
 Naval Postgraduate School (2001)  
 North Carolina State University (2008)  
 Northeastern University (1988, 2011)  
 Northwestern University (2002, 2007, 2015)  
 Ohio State University (1990)  
 Oklahoma State University (1998, 2014)  
 Old Dominion University (1996)  
 Pennsylvania State University (1988, 2016)  
 Purdue University (2007, 2009, 2011)  
 Rensselaer Polytechnic Institute (2008, 2012, 2013)  
 Rochester Institute of Technology (2009)  
 Rice University (2018)  
 Rose-Hulman Institute of Technology (2009)  
 Rutgers, the State University of New Jersey (2006)  
 Sandia National Laboratory (2003)  
 Schlumberger (Austin Research), Austin, Texas (1996)  
 Silicon Valley Illini Club (2008)  
 Southern Illinois University (Edwardsville) (1998, 2013)  
 Southern Polytechnic State University (1997, 1998)  
 Statistical and Applied Mathematical Sciences Institute (2012)  
 SUNY Stony Brook (2013)  
 Texas A&M University (2012, 2013)  
 Texas Tech University (2007)  
 United States Military Academy (1996, 2000, 2003)  
 University of Arizona (2001, 2003)  
 University of British Columbia (2010)  
 University of Buffalo (2011, 2019)  
 University of California (Berkeley) (2004)  
 University of Florida (2006, 2007, 2013)  
 University of Houston (2014)  
 University of Illinois (Urbana-Champaign) (1998, 2003, 2008, 2009)  
 University of Iowa (2008)  
 University of Kentucky (2019)  
 University of Michigan (1988, 1999, 2005, 2012, 2016)  
 University of Maryland (2000, 2006, 2007)  
 University of Massachusetts (2010)  
 University of Minnesota (1992, 2000, 2008, 2013)  
 University of Missouri (2019)  
 University of Montreal (1996)

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University of North Carolina (Chapel Hill) (1998, 2007)  
 University of Oklahoma (2010)  
 University of Pennsylvania (1996)  
 University of Pittsburgh (2005, 2011)  
 University of South Florida (2013)  
 University of Southern California (2008, 2013, 2019)  
 University of Tennessee (2014)  
 University of Texas (Austin) (1993, 1996, 1999, 2001, 2004, 2013, 2016)  
 University of Washington (2014)  
 University of Wisconsin (2005)  
 Vanderbilt University (2003)  
 Virginia Tech (1993, 1995, 1996, 1997, 1998)  
 Washington University (St. Louis) (1992)  
 Xerox Corporation, Webster Research Center (2010)  
 1986,1991,1995,1997, 1999, 2000, 2002, 2004-2006, 2009-2010 Opt. Days, Montreal, Canada  
 1987-1990, 1992, 1994-2000, 2005 Winter Simulation Conference  
 1988-1994 ORSA/TIMS & TIMS/ORSA Joint National Meetings  
 1988, 1994, 2000 International Symposium on Mathematical Programming  
 1988 International Conference on Analysis and Optimization of Systems, Antibes, France  
 1994, 1999 Decision Sciences Institute Annual Meeting  
 1994 European Simulation Multiconference, Barcelona, Spain  
 1995-2016 INFORMS National Meetings  
 1995, 1998, 1999 AFOSR Electronic Prototyping Review Meeting, Dayton, Ohio  
 1995 First Metaheuristics International Conference, Breckenridge, Colorado  
 1995 Workshop on Industrial Systems Dynamics, Nantes, France  
 1996 National Science Foundation Design & Manufacturing Grantees Conference,  
 Albuquerque, New Mexico  
 1996 Richmond/Tidewater INFORMS Chapter Meeting, Norfolk, Virginia  
 1996,2004 St. Louis Gateway INFORMS Chapter Meeting, St. Louis, Missouri  
 1996 AFOSR Electronic Prototyping Review Meeting, Athens, Ohio  
 1996 Second International Workshop on Mathematical Methods in Stochastic Simulation and  
 Experimental Design, St. Petersburg, Russia  
 1997 National Science Foundation Design & Manuf. Grantees Conference, Seattle, Washington  
 1997 AFOSR Electronic Prototyping Review Meeting, Blacksburg, Virginia  
 1997 European Simulation Multiconference, Istanbul, Turkey  
 1997 INFORMS Applied Probability Conference, Boston, Massachusetts  
 1997 Interscience Conference on Antimicrobial Agents and Chemotherapy, Toronto, Canada  
 1998 National Science Foundation Design & Manuf. Grantees Conference, Monterey, Mexico  
 1999 Advanced Aerospace Materials and Processes Conference (Aeromat '99), Dayton, Ohio  
 1999 AFOSR Scientific Advisory Board Meeting, Dayton, Ohio  
 2000 National Science Foundation Design & Manuf. Grantees Conference, Vancouver, Canada  
 2000 SIAM Discrete Mathematics Conference, Minneapolis, Minnesota  
 2000 Military Operations Research Society Symposium, Colorado Springs, Colorado  
 2000 Manufacturing and Service Operations Management Conference, Ann Arbor, Michigan  
 2000 AFOSR Electronic Prototyping & New World Vistas – Disc. Math. Review, Orlando, Florida  
 2000 NEXTOR Annual Research Symposium, Washington, DC  
 2001 National Science Foundation Design & Manufacturing Grantees Conference, Tampa,  
 Florida  
 2001 Fourth Annual Conference on Vaccine Research, Arlington, Virginia  
 2001 INFORMS International Meeting, Maui, Hawaii

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2001 International Conference on Innovation in Architecture, Engineering, and Construction, United Kingdom  
 2001 AFOSR Electronic Prototyping, Discrete Mathematics Review, Seattle, Washington  
 2001 Intelligence Processing and Manufacturing of Materials Conference, Vancouver, Canada  
 2001 Advisory Committee on Immunization Practice, Atlanta, Georgia  
 2002 National Science Foundation Design & Manufacturing Grantees Conference, San Juan, Puerto Rico  
 2002 National Immunization Conference, Denver, Colorado  
 2002 SIAM Optimization Conference, Toronto, Canada  
 2002 Institute of Industrial Engineers Annual Conference, Orlando, Florida  
 2002 Hawaii International Conference on Statistics, Honolulu, Hawaii  
 2002 AFOSR Electronic Prototyping, Discrete Mathematics Review, Sunnyvale, California  
 2002 SIAM Discrete Mathematics Conference, San Diego, California  
 2003 National Science Foundation Design, Service, & Manufacturing Grantees and Research Conference, Birmingham, Alabama  
 2003 First International Workshop on Optimization in Radiation Therapy  
 2003 National Immunization Conference, Chicago, Illinois  
 2003 Sixth Annual Conference on Vaccine Research, Arlington, Virginia  
 2003 Institute of Industrial Engineers Annual Conference, Portland, Oregon  
 2003 AFOSR Optimization and Discrete Mathematics Program Review, Estes Park, Colorado  
 2004 National Science Foundation Design, Service, & Manufacturing Grantees and Research Conference, Dallas, Texas  
 2004 Institute of Industrial Engineers Annual Conference, Houston, Texas  
 2004 SIAM Discrete Mathematics Conference, Nashville, Tennessee  
 2004 SIAM National Annual Meeting, Portland, Oregon  
 2004 AFOSR Optimization and Discrete Mathematics Program Review, Pasadena, California  
 2004 Tenth International Conference on Stochastic Programming, Tucson, Arizona  
 2005 National Science Foundation Design, Service, & Manufacturing Grantees and Research Conference, Phoenix, Arizona.  
 2005 National Immunization Conference, Washington, DC  
 2005 IEEE Conference on Technologies for Homeland Security: Advanced Sensors for Personnel, Baggage and Cargo Security, Boston, Massachusetts  
 2005 SIAM Conference on Optimization, Stockholm, Sweden  
 2005 Genetic and Evolutionary Computation Conference, Washington, DC  
 2005 17th Triennial Conference of the International Federation of Operational Research Societies, Honolulu, Hawaii  
 2005 AFOSR Optimization and Discrete Mathematics Program Review, St. Louis, Missouri  
 2005 Homeland Security Institute Workshop "Advancing Analytic Techniques in Deterrence Analysis – Workshop Plenary Meeting", Washington, DC  
 2005 Winter Simulation Conference, Orlando, Florida (Keynote Speaker, Ph.D. Colloquium)  
 2006 National Immunization Conference, Atlanta, Georgia  
 2006 INFORMS Optimization Society Conference on Optimization and Health Care, San Antonio, Texas  
 2006 INFORMS Conference on OR/MS Practice, Miami, Florida  
 2006 Canadian Operations Research Society (CORS) National Meeting, Montreal, Canada  
 2006 Institute of Industrial Engineers Annual Conference, Orlando, Florida  
 2006 AFOSR Optimization and Discrete Mathematics Program Review, Pensacola, Florida  
 2006 INFORMS Manuf. & Service Operations Management Conference, Atlanta, Georgia  
 2006 SIAM Conference on Discrete Mathematics, Victoria, Canada  
 2006 National Science Foundation Design, Service, & Manufacturing Grantees and Research Conference, St. Louis, Missouri



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2006 COMPSTAT 2006, International Conference on Computational Statistics, Rome, Italy  
 2006 Safe Skies Symposium, Washington, DC  
 2007 INFORMS Computing Society Conference, Coral Gables, Florida  
 2007 National Immunization Conference, Kansas City, Missouri  
 2007 Workshop on Intl. Research & Development in Rapid Vaccine Manuf., Arlington, Virginia  
 2007-2011 AFOSR Optimization and Discrete Mathematics Program Review, Arlington, Virginia  
 2007 Institute of Industrial Engineers Annual Conference, Nashville, Tennessee  
 2007 Dallas/Fort Worth INFORMS Chapter Meeting, Dallas, Texas  
 2007 Metaheuristics International Conference, Montreal, Canada  
 2007 INFORMS International Conference, Rio Grande, Puerto Rico  
 2007 Sixth International Congress on Industrial and Applied Mathematics, Zurich, Switzerland  
 2007 Operating on Health Care: An Operations Research Symposium, Vancouver, Canada  
 2007 Opening Workshop on Risk Analysis, Extreme Events, and Decision theory, Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, North Carolina  
 2008 National Science Foundation Civil, Mechanical, and Manufacturing Innovation (CMMI) Engineering Research and Innovation Conference, Knoxville, Tennessee  
 2008 INFORMS Opt. Soc. Conf. on Theory, Computation, & Emerging Applications, Atlanta, Georgia  
 2008 National Immunization Conference, Atlanta, Georgia  
 2008 INFORMS Manuf. & Service Operations Management Conference, College Park, Maryland  
 2008 SIAM Conference on Discrete Mathematics, Burlington, Vermont  
 2008 SIAM Annual Meeting, San Diego, California  
 2008 Joint Statistics Meeting, Denver, Colorado  
 2008 Northern California Symposium on Statistics & Operations Research in Sports, Menlo Park, California  
 2009 INFORMS Computing Society Conference, Charleston, South Carolina  
 2009 National Immunization Conference, Dallas, Texas  
 2009 Canadian Discrete and Algorithmic Mathematics Conference, Montreal, Canada  
 2009 IIE Research Conference Doctoral Colloquium, Miami, Florida  
 2009 CORS-INFORMS International Meeting, Toronto, Canada  
 2009 National Science Foundation (NSF) Civil, Mechanical and Manuf. Innovation (CMMI) Engineering Research and Innovation Conference, Honolulu, Hawaii  
 2009 INFORMS Applied Probability Conference, Ithaca, New York  
 2010 International Conference on Systems Analysis Tools for Better Health Care Delivery: A New Engineering/Health Care Partnership, Invited Plenary, Gainesville, Florida  
 2010 IIE Research Conference Doctoral Colloquium, Cancun, Mexico  
 2010 National Science Foundation, Arlington, Virginia  
 2010 SIAM Conference on Discrete Mathematics, Austin, Texas  
 2010 Twelfth International Conference on Stochastic Programming, Halifax, Canada  
 2010 AVSEC World 2010, Frankfurt, Germany  
 2011 National Science Foundation (NSF) Civil, Mechanical and Manufacturing Innovation (CMMI) Research & Innovation Conference, Atlanta, Georgia  
 2011 INFORMS Computing Society Conference, Monterrey, California  
 2011 National Immunization Conference, Washington, DC  
 2011 IIE Research Conference Doctoral Colloquium, Reno, Nevada  
 2011 INFORMS Health Care, Montreal, Canada  
 2011 INFORMS Simulation Society Research Workshop: Simulation in Complex Service Systems, Montreal, Canada  
 2011 Mayo Clinic Conference on Systems Engineering and Operations Research in Health Care, *Rochester, Minnesota*

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2011 Transportation Hazards and Security Summit: Looking Beyond the 10th Anniversary of 9/11, Irvine, California  
 2011, 2015 New England Symposium on Statistics in Sports, Boston Massachusetts  
 2012 Joint Mathematics Meeting, Boston Massachusetts  
 2012 Transportation Research Board, Washington, DC  
 2012 World Vaccine Congress, Washington, DC  
 2012 National Science Foundation (NSF) Civil, Mechanical and Manufacturing Innovation (CMMI) Research & Innovation Conference, Boston, Massachusetts.  
 2012 Workshop on Comp. Sim. - Opportunities & Challenges, Fudan Univ., Shanghai, China.  
 2012 Workshop on Healthcare and Operations Research, SAMSI, RTC, North Carolina  
 2015 Euro OR Conference, Glasgow, Scotland  
 2015 CREATE-TSA Symposium on Aviation Security, Los Angeles, California  
 2015 Washington INFORMS Chapter, Washington, DC  
 2015 Rutgers Fourth Applied Probability Conference, New Brunswick, New Jersey  
 2016 Workshop on Broader Impact, National Science Foundation, Arlington, Virginia.  
 2016 SIAM Conference on Discrete Mathematics, Atlanta, Georgia  
 2017 Joint Mathematics Meeting, Atlanta, Georgia  
 2017 INFORMS Computing Society Conference, Austin, Texas  
 2018 Joint Mathematics Meeting, San Diego, California  
 2018 National Taiwan University - Illinois Forum, Taipei, Taiwan  
 2019 Big Ten Strategic Partnership for Applied Redistricting Knowledge (SPARK) Conference, College Park, Maryland  
 2019 INFORMS, Capitol Hill Outreach, Washington, DC  
 2019 American College of Physicians Spouses Program, Philadelphia, Pennsylvania  
 2019 INFORMS Government & Analytics Summit, Washington, DC  
 2019 Euro-OR Meeting, Dublin, Ireland  
 2019 Coles College Research Symposium (Keynote), Kennesaw State University, Atlanta, Georgia  
 2019 Big Data Ignite, Grand Rapids, Michigan  
 2021 University of Iowa Computing Conference (zoom)

*Conference Committees, Sessions Organized and/or Chaired*

1990 TIMS/ORSA Joint National Meeting, May 6-9, 1990, Las Vegas, Nevada, Sponsored by the TIMS College on Simulation, "Sensitivity Analysis."  
 1991 Winter Simulation Conference, December 8-11, 1991, Phoenix, Arizona, Software/Modelware Track Tutorial, "SIGMA Tutorial."  
 1993 TIMS/ORSA Joint National Meeting, May 16-19, 1993, Chicago, Illinois, Sponsored by the TIMS College on Simulation, "Simulation Sensitivity Estimation."  
 1993 Winter Simulation Conference, December 12-15, 1993, Los Angeles, California, Sponsored by the TIMS College on Simulation, Ph.D. Colloquium.  
 1994 TIMS/ORSA Joint National Meeting, April 24-27, 1994, Boston, Massachusetts, "Simulation Methods."  
 1994 Eur. Simulation Multiconf., June 1-3, 1994, Barcelona, Spain, "Performance Analysis."  
 1994 Winter Simulation Conference, December 11-14, 1994, Orlando, Florida, Advanced Tutorial Track (Nine Sessions).  
 1994 Winter Simulation Conference, December 11-14, 1994, Orlando, Florida, Sponsored by the TIMS College on Simulation, Ph.D. Colloquium.  
 1994 Winter Simulation Conference, December 11-14, 1994, Orlando, Florida, Panel Discussion (with D.J. Morrice), "Teaching Simulation: A Panel Discussion."  
 1995 Winter Simulation Conference, December 3-6, 1995, Washington, DC, Advanced Tutorial Track (Nine Sessions).

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1996 INFORMS National Meeting, May 5-8, 1996, Washington, DC, "Scheduling."

1996 Second International Workshop on Mathematical Methods in Stochastic Simulation and Experimental Design, June 18-21, 1996, St. Petersburg, Russia, Member of the International Organizing and Program Committee.

1996 INFORMS National Meeting, November 3-6, 1996, Atlanta, Georgia, "Health Applications."

1996 Winter Simulation Conference, December 8-11, 1996, San Diego, California, "Discrete Optimization and Selection."

1997 AFOSR Electronic Prototyping Review Meeting, May 27-29, 1997, Virginia Tech, Blacksburg, Virginia, Host and Local Arrangement Organizer for Meeting.

1997 European Simulation Multiconference, June 1-4, 1997, Istanbul, Turkey, "Design, Validation, and Testing."

1997 INFORMS Applied Probability Conference, June 30 - July 2, 1997, Boston, Massachusetts, "Stochastic Optimization Methodologies."

1997 Winter Simulation Conference, December 7-10, 1997, Atlanta, Georgia, "Global Optimization via Simulation."

1998 Third International Workshop on Mathematical Methods in Stochastic Simulation and Experimental Design, June 28 - July 3, 1998, St. Petersburg, Russia, Member of the International Organizing and Program Committees.

1999 Winter Simulation Conference, December 4-8, 1999, Phoenix, Arizona, "Simulation Optimization."

2000 International Symposium on Mathematical Programming, August 7-11, 2000, Atlanta, Georgia, "Metaheuristics."

2000 INFORMS National Meeting, November 5-8, 2000, San Antonio, Texas, "Algorithm Design for Discrete Optimization Problems."

2002 Optimization Days, May 6-8, 2002, Montreal, Canada, "Metaheuristics I."

2002 SIAM Conference on Optimization, May 18-22, 2002, Toronto, Canada, "Global Optimization."

2002 Hawaii International Conference on Statistics, June 5-9, 2002, Honolulu, Hawaii, "Statistics."

2002 INFORMS National Meeting, November 17-20, 2002, San Jose, California, Cluster Organizer, "Applications of Optimization Theory."

2002 INFORMS National Meeting, November 17-20, 2002, San Jose, California, "Heuristic Programming Methods I."

2002 Winter Simulation Conference, December 8-11, 2002, San Diego, California, Modelware/Software Track Coordinator (Nine Sessions).

2003 Winter Simulation Conference, December 7-10, 2003, New Orleans, Louisiana, Modelware/Software Track Coordinator (Nine Sessions).

2004 Optimization Days, May 10-12, 2004, Montreal, Canada, "Combinatorial Optimization".

2004 SIAM National Annual Meeting, July 12-16, 2004, Portland, Oregon, "CP1 Contributed Session".

2004 Winter Simulation Conference, December 4-8, 2004, Washington, DC, "Input Modeling."

2005 Sixth Metaheuristics International Conference, August 22-26, 2005, Vienna, Austria, Program Committee.

2006 INFORMS Manufacturing and Service Operations Management Conference, June 19-20, 2006, Atlanta, Georgia, Review Committee.

2006 INFORMS National Meeting, November 8-11, 2006, Pittsburgh, Pennsylvania, "Society and Energy."

2007 Seventh Metaheuristics International Conference, June 25-29, 2007, Montreal, Canada, Program Committee.

2007 INFORMS International Meeting, July 8-11, 2007, Puerto Rico, Cluster Chair, "OR on the Edge".

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2007 International Congress on Industrial and Applied Mathematics, July 16-20, 2007, Zurich, Switzerland, Session Chair, "Probability".

2008 INFORMS Manufacturing and Service Operations Management Conference, June 5-6, 2008, College Park, Maryland, Review Committee.

2008 COMPSTAT International Conference on Computational Statistics, August 24-29, 2008, Porto - Portugal, Review Committee.

2008 SIAM National Annual Meeting, July 7-11, 2008, San Diego, California, Session Chair, "Biological and Medical Models I".

2010 Winter Simulation Conference, December 5-8, 2010, Baltimore, MD, "Epidemics and Agents."

2012 SIAM Conference on Discrete Mathematics, June 19, 2012, Halifax, Canada, "Discrete Algorithms."

## VIDEO AND AUDIO PRODUCTIONS

"A Health Collaboration: Pediatric Immunization & Operations Res.," Released 24 April 2006.

"Aviation Security: Researching the Risk," Released 20 September 2006.

Oral History, Abraham Lincoln Presidential Library and Museum, Civics Education, ["Computational Redistricting to Combat Gerrymandering."](#) Released 2 June 2021.

## WEB SITE PRODUCTIONS

election08.cs.illinois.edu Web site for predicting the outcome of the 2008 United States Presidential Election (launched September 2008)

bracketodds.cs.illinois.edu Web site for assessing the likelihood of seed combination for the NCAA Men's D1 basketball Tournament (launched March 2012, updated annual since 2013)

electionanalytics.cs.illinois.edu Web site for predicting the outcome of the 2012 United States Presidential Election and which party will control the United States Senate (launched June 2012, Updated June 2014, Updated May 2016. Updated May 2018)

drivingobesity.cs.illinois.edu Web site for assessing the impact of driving and caloric intake on body mass index (launched January 2016).

redistricting.cs.illinois.edu Web site featuring the redistricting research of the Institute for Computational Redistricting (ICOR) (launched August 2019).

## DISSERTATIONS/THESES DIRECTED

*Ph.D. Dissertations Directed* (25 Directed, 4 Currently)

M.A. Fleischer, "Assessing the Performance of the Simulated Annealing Algorithm Using Information Theory," January 1994, United States Census Bureau, Washington, DC.

A.W. Johnson, "Generalized Hill Climbing Algorithms for Discrete Optimization Problems," October 1996.

- **1997 George E. Nicholson Student Paper Competition (INFORMS), Honorable Mention.**

K.A. Sullivan, "A Convergence Analysis of Generalized Hill Climbing Algorithms," May 1999, Consultant, Chicago, Illinois.

- **1996 Women and Minority Award, INFORMS College on Simulation.**
- **1996 AFOSR Graduate Student Summer Research Fellowship Award.**

D.E. Vaughan, "Simultaneous Generalized Hill Climbing Algorithms for Addressing Sets of Discrete Optimization Problems," August 2000, Research Scientist, Los Alamos Research Laboratory, Los Alamos, New Mexico.

- **2001 Paul E. Torgersen Graduate Student Research Excellence Award, Runner Up.**
- **2001 AAUW Postdoctoral Research Leave Fellowship, Runner up.**



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- **2002 IIE Pritsker Doctoral Dissertation Award Competition, Third Place.**
- D. Henderson, "Assessing the Finite-Time Performance of Local Search Algorithms," April 2001, Academy Professor, Consultant, Louisville, Kentucky.
- T. Aytemiz, "A Probabilistic Study of 3-SATISFIABILITY," July 2001, Professor, School of Business and Political Science, Mersin University, Mersin, Turkey.
- D.E. Armstrong, "A Local Search Algorithm Approach to Analyzing the Complexity of Discrete Optimization Problems," May 2002, Research Scientist, Los Alamos Research Laboratory, Los Alamos, New Mexico.
- **2001-2002 M&IE Alumni Teaching Fellow, University of Illinois.**
- L.A. (McLay) Albert, "Designing Aviation Security Systems: Theory and Practice," May 2006, Professor, Department of Industrial Engineering, University of Wisconsin, Madison, Wisconsin.
- **2002-2003 Ph.D. Thesis Initiation Fellowship, Program in Arms Control, Disarmament, and International Security (ACDIS).**
- **2003-2004 M&IE Alumni Teaching Fellow, University of Illinois.**
- **2005 M&IE Harper Safety Award, University of Illinois.**
- **2006 INFORMS Computing Society Student Paper Competition, Runner Up.**
- H. Kaul, "Topics in Stochastic Combinatorial Optimization and Extremal Graph Theory," August 2006 (co-advised with D. West), Professor, Department of Mathematics, Illinois Institute of Technology, Chicago, Illinois.
- S.N. Hall, "The Design and Analysis of Pediatric Vaccine Formularies: Theory and Practice" August 2006.
- **2006 M&IE Harper Safety Award, University of Illinois.**
- A.G. Nikolaev, "Stochastic Sequential Resource Allocation and Passenger Assignment in Aviation Security Systems" August 2008, Associate Professor, SUNY Buffalo, Buffalo, New York.
- G.K. Kao, "Two Combinatorial Optimization Problems at the Interface of Computer Science and Operations Research" August 2008, Staff Researcher, Sandia National Laboratory.
- R.A. Proano, "Strengthening the Sustainability of Pediatric Vaccine Supply by using Operations Research Methods" August 2008, Associate Professor, Rochester Institute of Technology, Rochester, New York.
- A.J. Lee, "Optimality, Uncertainty, and Performance of Passenger Screening in Aviation Security Systems" May 2009, Director, Central Illinois Technology and Education Research Institute, Springfield, Illinois.
- **2008-2009 Graduate Research Award, Program on Public-Sector Aviation Issues, sponsored by the Federal Aviation Administration and U.S. Department of Transportation.**
- **2009 INFORMS Transportation Sci. & Logistics Dissertation Prize (Honorable Mention).**
- M. Robbins, "Exploring Pediatric Immunization Markets Using Operations Research and Game Theory," August 2010, Associate Professor, Department of Operational Sciences, Air Force Institute of Technology, Dayton, Ohio.
- **2011 IIE Pritsker Doctoral Dissertation Award Competition, First Place.**
- D.M. King, "Graph Theory Models and Algorithms for Political Districting: An Approach to Inform Public Policy," May 2012, Lecturer, Department of IESE, University of Illinois, Urbana, IL.
- **2009 College of Engineering Mavis Memorial Fund Scholarship, Univ. of Illinois.**
- **2010 College of Engineering Mavis Future Faculty Fellowship, Univ. of Illinois.**
- **2012 Finalist, Best Paper Award, INFORMS Section on Public Policy, Services and Needs).**
- **2012 Semi-Finalist, Advances in Analytics Award, INFORMS Analytics Society.**

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**- 2013 IIE Pritsker Doctoral Dissertation Award Competition, Second Place.**

G. Baharian, "Limiting Behavior of the Target-Dependent Stochastic Sequential Assignment Problems," August 2014.

B. Behzad, "Analysis of the United States Pediatric Immunization Market: A Game Theoretic Approach," May 2014, Assistant Professor, California State University, Long Beach.

**- 2013 Gilbreth Memorial Fellowship by the Institute of Industrial Engineers (IIE).**

D.M. Morrison, "New Methods for Branch-and-Bound Algorithms," May 2014, Inverse Limit, Sacramento, CA.

J.J. Sauppe, "Balance Optimization Subset Selection: A Framework for Causal Inference with Observational Data," August 2015, Assistant Professor, University of Wisconsin La Crosse.

A. Khatibi, "Generalized Sequential Stochastic Assignment Problems," August 2017.

**- 2018 IIE Pritsker Doctoral Dissertation Award Competition, Second Place.**

G. Yu, "Dynamic Online Resource Allocation Problems," May 2018. Amazon, Boston, MA.

H.-Y., Kwon, "New Developments in Causal Inference Using Balance Optimization Subset Selection," May 2018.

**- 2017 College of Engineering Mavis Future Faculty Fellowship, Univ. of Illinois.**

W. Zhang, "Cyclic Best First Search in Branch-and-Bound Algorithms," May 2020.

J. Pavlik, "Two Graph Problems: Bidirectional Heuristic Search and the Airplane Seating Assignment Problems," July 2021, West Point.

*M.S. Thesis/Projects Directed (12 Directed)*

A.E. Simms, "A Stochastic Approach to Modeling Aviation Security Problems Using the Knapsack Problem," June 1997 (co-advised with J.E. Kobza).

**- 1998 IIE Graduate Research (Master's Thesis) Award Competition, First Place.**

J.R. Swisher, "Evaluation of the Design of a Family Practice Healthcare Clinic using Discrete-Event Simulation," May 1999.

J.B. Jun, "A Visual Simulation Life-Cycle of the Queston Physician Network," May 1999.

J.E. Orosz, "Finite-time Performance Results for Static and Cyclical Simulated Annealing Algorithms," May 2001.

J.M. Bowman, "Evaluating and Analyzing the Performance of Aviation Baggage Screening Security Systems," August 2001.

J.L. Virta, "Three Essays on the Modeling and Analysis of Aviation Baggage Screening Security Systems," August 2001.

V. Venkat, "Post-optimality Analysis for Multi-objective Optimization Problems," October 2002 (co-advised with J.A. Stori).

T. Karnani, "Engineering the Design and Analyzing the Economics of Pediatric Vaccine Formularies," May 2003.

**- 2004 IIE Graduate Research (Master's Thesis) Award Competition, Second Place.**

I. Shyryayev, "A Sensitivity Analysis of Matching Coin Game Strategies," December 2004.

S. Dutta, "Applications of Balance Optimization Subset Selection," August 2016.

Z. She, "Essays on the Relationship Between Public Transit usage and Obesity," December 2017 (co-advised with D.M. King).

K. Li, "Modeling and analyzing the NCAA Men's Division I Basketball Tournament," December 2017.

M. Kelley, "Variations of Online Bipartite Matching," May 2021.

**SPONSORED RESEARCH (Over \$5.0M)**

*National Science Foundation*, Research Initiation Award, 9/1994 to 8/1998, "Building and Analyzing Discrete Event Simulation Models of Complex Systems: A Computational

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Complexity Approach," Division of Design, Manufacturing, and Industrial Innovation, DMI-9409266.

*Air Force Office of Scientific Research*, 2/1995 to 1/1998, "Building and Analyzing Discrete Event Simulation Models of Complex Manufacturing Systems: A Computational Complexity Approach," Division of Mathematical and Computer Sciences, F49620-95-1-0124.

*National Science Foundation* (with H.D. Sherali), 9/1995 to 8/1996, "Engineering Research Equipment: Workstations for Computational Studies in Large-Scale Simulation and Mathematical Programming Research," Division of Design, Manufacturing, and Industrial Innovation, DMI-9423929.

*Air Force Office of Scientific Research*, 2/1998 to 11/2000, "Discrete Manufacturing Process Design Optimization Using Generalized Hill Climbing Algorithms," Division of Mathematical and Computer Sciences, F49620-98-1-0111.

*Air Force Office of Scientific Research*, 5/1998 to 5/2001, "AASERT - Optimal Discrete Manufacturing Process Design Optimization," Division of Mathematical and Computer Sciences, F49620-98-1-0432.

*Rowe Furniture and the Virginia Center for Innovative Technology* (with J.E. Kobza), 2/1999 to 7/1999, "A Simulation Study of New Layouts for a Furniture Manufacturing Facility."

*Federal Aviation Administration*, 7/1999 to 12/2000. "Deployment of Aviation Security Technologies," DTFA01-99-C-00085.

*National Science Foundation*, 1/2000 to 1/2003, "A Study of Local Search Strategies Using Generalized Hill Climbing Algorithms," Division of Design, Manufacturing, and Industrial Innovation, DMI-9907980.

*Air Force Office of Scientific Research* (subcontracted through Austral Engineering and Software, Inc.) (with J.A. Stori), 10/2000 to 10/2001, "Software System for Criteria Management in Multi-Objective Optimization-Guided Design of Sequences of Materials Processes," Division of Mathematical and Space Sciences, F49620-00-C-0044.

*Air Force Office of Scientific Research*, 12/2000 to 11/2003, "Designing Optimal Generalized Hill Climbing Algorithms, with Applications to Discrete Manufacturing Process Design Optimization," Division of Mathematical and Space Sciences, F49620-01-1-0007.

*National Science Foundation* (with John, E. Kobza), 9/2001 to 8/2006, "Collaborative Research: A Study of Aviation Access Control Security Systems," Division of Design, Manufacturing, and Industrial Innovation, DMI-0114499, DMI-0211053.

*Air Force Office of Scientific Research* (subcontracted through Austral Engineering and Software, Inc.) (with J.A. Stori), 10/2001 to 7/2004, "Software System for Criteria Management in Multi-Objective Optimization-Guided Design of Sequences of Materials Processes," Division of Mathematical and Space Sciences, F49620-00-C-0044.

*National Science Foundation* (with Edward C. Sewell), 1/2003 to 6/2005, "Collaborative Research: Research on Designing Vaccine Formularies for Childhood Immunization," Division of Design, Manufacturing, and Industrial Innovation, DMI-0222597.

*Air Force Office of Scientific Research*, 3/2004 to 2/2007, "A Heuristic Design Information Sharing Framework for Hard Discrete Optimization Problems," Division of Mathematical and Space Sciences, FA9550-04-1-0110.

*National Science Foundation* (with Edward C. Sewell), 8/2005 to 7/2008, "Collaborative Research: Pediatric Vaccine Formulary Design and Optimization," Division of Design, Manufacturing, and Industrial Innovation, DMI-0457176.

*Air Force Office of Scientific Research*, 3/2007 to 11/2009, "Finite-Time Performance of Local Search Algorithms: Theory and Application," Division of Mathematical and Space Sciences, FA9550-07-1-0232.

*National Science Foundation* (with Wendy Cho) 7/2008 to 6/2009, "SGER-III-CXT: A Computational Approach to Zoning Analysis," Division of Information & Intelligent Systems, IIS-0827540.

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*National Science Foundation* (with Wendy Cho, Edward C. Sewell), 7/2009 to 6/2012, "Collaborative Research: Shifting Paradigms: Causal Inference via Subset Selection," Division of Social and Economic Sciences, SES-0849223.

*National Science Foundation*, 8/2009 to 7/2013, "New Approaches to Protecting Transportation Infrastructure," Division of Civil, Mechanical and Manufacturing Innovation, CMMI-0900226.

*Air Force Office of Scientific Research*, 7/2010 to 7/2013, "Optimal Dynamic Asset Allocation Problems: Addressing the Impact of Information Uncertainty and Quality," Division of Mathematical and Space Sciences, FA9550-10-1-0387.

*National Science Foundation*, 8/2012 to 7/2017, "A Game Theoretic Approach to Pediatric Vaccine Pricing," Division of Civil, Mechanical and Manufacturing Innovation, CMMI-1161458.

*Air Force Office of Scientific Research*, 2/2015 to 2/2018, "Optimal Dynamic Asset Allocation Problems: New Approaches for Managing Input Data Uncertainty," Division of Mathematical and Space Sciences, FA9550-15-1-0100.

*National Science Foundation*, 3/2016 to 3/2018, "Workshop: Setting a Broader Impact Innovation Roadmap; Arlington, Virginia; May 2016" Division of Civil, Mechanical and Manufacturing Innovation, CMMI-1629955.

*Air Force Office of Scientific Research*, 3/2019 to 3/2022, "Optimal Real-time Decision-making in an Uncertain World," Division of Information and Networks, FA9550-19-1-0106.

### **CORPORATE GIFTS**

*Alcoa Foundation* (with C.P. Koelling), 10/1997 to 10/1999, \$60,000 to support the ISE Computational Laboratory and the Simulation and Optimization Laboratory, Department of Industrial and Systems Engineering, Virginia Polytechnic Institute and State University.

### **CONSULTING**

*Biological and Popular Culture, Inc.*, Radford, VA (4/1996-12/1997).

*Logicon*, Fairfax, VA (1/1998-7/1999).

*SmithKline Beecham Pharmaceuticals*, Philadelphia, PA (1/2000-7/2000).

*Austral Engineering and Software, Inc.*, Athens, OH (9/2000-5/2001).

*Homeland Security Institute*, Alexandria, Virginia (3/2006-10/2006).

Fish and Richardson, Philadelphia, PA (2/2015-8/2015).

Security Point Media (12/2017-Present)

### **CORPORATE BOARD ACTIVITIES**

Scientific Advisory Board, *Biopop Inc.*, Radford, Virginia (11/2000-12/2002).

### **SELECTED MEDIA COVERAGE AND OUTREACH**

The papers "An Integer Programming Model for Vaccine Procurement and Delivery in the National Childhood Immunization Program: A Pilot Study," (co-authored with Edward C. Sewell, Robert Deuson, and Bruce G. Weniger) published in *Health Care Management Science* (Volume 2, Number 1, January 1999) by Baltzer Science Publishers, and "Addressing the Challenges to Immunization Practice with an Economic Algorithm for Vaccine Selection," (co-authored with Bruce G. Weniger, Robert T. Chen, Edward C. Sewell, Robert Deuson, J.R. Livengood, and W.A. Orenstein) published in *Vaccine* (Volume 16, Number 19) by Elsevier Science, received significant media coverage following a press release issued on December 21, 1998 by Virginia Polytechnic Institute and State University. Media coverage included

- Article, *Hepatitis Weekly* on 23 November 1998.
- Television news spot, WDBJ-7 (CBS affiliate in Roanoke, Virginia) on 17 December 1998.
- Radio news spot, *Morning Edition*, Virginia News Network, National Public Radio (NPR) on 21 December 1998.



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- Article, *Richmond Times - Dispatch* on 24 December 1998.
- Article, *Health Letter of the CDC* on 11 January 1999.
- Article, *Vaccine Weekly* on 11 January 1999.
- Article, *Journal of the American Medical Association* (Quick Uptakes) on 27 January 1999.
- Article, *Infectious Diseases in Children*, Volume 12, Number 2, February 1999.

The paper "A New Neighborhood Function for Discrete Manufacturing Process Design Optimization Using Generalized Hill Climbing Algorithms," (co-authored with Diane E. Vaughan and Derek E. Armstrong) published in *ASME Journal of Mechanical Design* (Volume 122, Number 2, 164-171) was featured in an article on 20 October 2000 focusing on new directions in manufacturing research in *Advanced Manufacturing Technology*.

Jacobson briefed the Advisory Committee on Immunization Practice (ACIP) on a web-site he co-developed for designing optimal pediatric vaccine formularies at their October 2001 meeting in Atlanta, Georgia (the ACIP is the nation's primary advisory board on immunization issues, providing guidance and advice to the Secretary of Health and Human Services).

The paper "Using Monte Carlo Simulation to Determine Combination Vaccine Price Distributions for Childhood Diseases," (co-authored with Edward C. Sewell) published in *Health Care Management Science* (Volume 5, Number 2, April 2002) by Baltzer Science Publishers, received media coverage following a press release issued on 8 April 2002 by the news bureau at the University of Illinois. Media coverage included

- Article, *UniSci, International Science News* on 11 April 2002.
- Article, *Immunization News* on 12 April 2002.
- Article, *IIE Solutions*, Volume 24(6), June 2002, p.23.
- Article, *Vaccine Weekly* on 26 June 2002.

Jacobson (with John E. Kobza) briefed personnel within the Office of Science and Technology Policy (in the executive Office of President George W. Bush) on 31 August 2002, on issues related to their aviation security research on assessing the cost and benefit of checked baggage screening strategies.

On 18 February 2003, Jacobson was a guest (with graduate student Laura A. McLay) on Focus 580 on public radio station WILL-AM580 (in Champaign, Illinois), to discuss our research activities on aviation security. Focus 580 is a daily radio program that interviews newsmakers and experts on national and international affairs.

The paper "Modeling Aviation Baggage Screening Security Systems: A Case Study," that appeared in the March 2003 issue of *IIE Transactions* (Volume 35, Number 3, pages 259-269), co-authored with J.L. Virta, J.M. Bowman, J.E. Kobza, and J.J. Nestor, was highlighted in *Research Reports* in the February 2003 of *Industrial Engineering*, the monthly professional magazine of the Institute of Industrial Engineers.

The paper "Pediatric Vaccine Stockpile Levels: How Much is Enough?" (co-authored with E.C. Sewell, R.A. Proano, and J.A. Jokela) published in *Vaccine* (Volume 24, Number 17, 3530-3537, 24 April 2006) by Elsevier Publishers, received media coverage following a press release issued on 18 April 2006 by the news bureau at the University of Illinois. Media coverage included over sixty web sites, newspapers, and professional magazines, including

- Reference on News-Medical.Net (Australia) on 19 April 2006.
- Reference on [www.vaccinationnews.com](http://www.vaccinationnews.com) on 18 April 2006.
- Reference on [www.medications.com](http://www.medications.com) on 18 April 2006.
- Reference on [www.healthcareindustrytoday.com](http://www.healthcareindustrytoday.com) on 20 April 2006.
- Reference on [www.medicalnewstoday.com](http://www.medicalnewstoday.com) (England) on 20 April 2006.

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- Reference on [www.worldwidehealth.com](http://www.worldwidehealth.com) on 20 April 2006.
- Commentary on the *Vaccine* article posted on [www.vaccineethics.org](http://www.vaccineethics.org) on 11 April 2006.
- Reference in *NewsRx* on 9 May 2006.
- Reference in *World Disease Weekly* on 9 May 2006.
- Reference in *Life Science Weekly* on 10 May 2006.
- Reference in *Medical Letter on the CDC & FDA* on 10 May 2006.
- Reference in *Pharma Business Week* on 10 May 2006.
- Reference in *Vaccine Weekly* on 10 May 2006.
- Reference in *Health & Medicine Week* on 11 May 2006.
- Reference in *Biotech Law Weekly* on 12 May 2006.
- Reference in *Drug Week* on 12 May 2006.
- Reference in *Science Letter* on 12 May 2006.
- Reference in *Law and Health Weekly* on 13 May 2006.
- Reference in *Aging and Elder Health Week* on 14 May 2006.

On 24 October 2006, the National Science Foundation (NSF) issued a press release (06-154) “New Technologies Could Make Airport Screening More Effective and Less Cumbersome,” which featured the video “Aviation Security: Researching the Risk.” (it can be viewed at [http://www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=108133](http://www.nsf.gov/news/news_summ.jsp?cntn_id=108133)). This release provided the details of an NSF hosted call-in program (held 28 September 2006) on the latest developments in airport security.

The paper “The Economic Impact of Obesity on Automobile Fuel Consumption,” published in *The Engineering Economist* (Volume 51, Number 4, 307-323, October –December 2006) by Taylor and Francis received media coverage following a press release issued on 24 October 2006 by the University of Illinois News Bureau, as well as an *Associated Press* news release on 25 October 2006. Media coverage included several hundred newspaper and magazine articles, radio interviews and broadcasts, and television interviews and reports. Newspaper coverage included the *Washington Post*, *USA Today*, *The Chicago Tribune*, the *Los Angeles Times*, and the *Boston Globe*. Magazines included *Business Week*, *Car and Driver*, *Forbes*, *Kiplinger*, *Women’s Health*, and *Reader’s Digest*. Several radio interviews and reports were aired, including “Morning Edition” on *National Public Radio*, “The Osgood Files” on *CBS Radio*, and two interviews on *Washington Post Radio*. Live TV interviews were also given, including “Street Signs” on *CNBC TV* (on 27 October 2006), *MSNBC TV* (on 28 October 2006), and the “Closing Bell” on *CNBC TV* (on 16 November 2006).

Jacobson appeared as an expert in the film documentary “Killer at Large” (produced by Shinebox Media productions), which highlights the growing obesity epidemic and its impact on society. The documentary was released in December 2007.

The paper “The Tradeoff between Technology and Prescreening Intelligence in Checked Baggage Screening for Aviation Security,” that appeared in *Journal of Transportation Security*, was featured in “A Minute with Sheldon Jacobson: How can better pre-screening make airports safer?” on the University of Illinois web site on 14 February 2008.

The web site, <http://election08.cs.uiuc.edu>, spearheaded by Jacobson and his collaborators generated wide spread media attention after the press release “Latest Electoral College Forecast Shows McCain Ahead By as Many as 27 Votes,” was issued on 17 September 2008 by INFORMS. National media attention included references on MSNBC.com on 17 September 2008 (“Political Picks” Ask Again later), by Carl Bialik (“The Numbers Guy”) in the *Wall Street Journal* on 26 September 2008 (“Oy, a Potential Electoral Mess: The Chance of Another Deadlock Is Greater Than You Think”) and in Random Samples in *Science Magazine* on 17 October 2008 (“The (B)Ayes Have It”).

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The article "Web Site Provides Pediatric Vaccine Pricing", which appeared in the October 2008 issue of *Managed Care* (Volume 17(10), Page 48), a professional magazine for health care administrators, featured research that was reported in the Jacobson and Sewell (2008) article in *Journal of the American Medical Informatics Association*.

The article "A Shot in the Arm for Integer Programming" by Barry Cipra, which appeared in the November 2008 issue of *SIAM News* (Volume 41, Number 9, pages 1,4) featured the pediatric vaccine modeling and analysis research reported in the Hall et al. (2009) article in *Operations Research*.

The paper "Seeding in the NCAA Men's Basketball Tournament: When is a Higher Seed Better?" published in *Journal of Gambling, Business, and Economics*, (Volume 3(2), 63-87) received media coverage following a press release issued on 16 March 2009 by the University of Illinois News Bureau. Media coverage included numerous on-line web news sites and newspapers, including the *Chicago Tribune*, [www.cnn.com](http://www.cnn.com), and the *Pittsburgh Post-Gazette*.

The paper "A Sequential Stochastic Passenger Screening Problem for Aviation Security," that appeared in the June 2009 issue of *IIE Transactions* (Volume 41, Number 6, pages 575-579), co-authored with L.A. McLay and A.G. Nikolaev, was highlighted in *Research Executive Summaries* in the May 2009 issue of *Industrial Engineering*, the monthly professional magazine of the Institute of Industrial Engineers.

The podcast, "Emergency! Pandemic", which was produced by INFORMS and released on 5 September 2009, featured Jacobson discussing his research on pediatric immunization, vaccine pricing, vaccine stockpiling, and pandemic response preparation.

Jacobson was featured on 2 October 2009, in *Science Live* on [www.livescience.com](http://www.livescience.com), based on his record of research contributions during his career.

"A Minute with aviation security expert Sheldon Jacobson: Racial versus behavioral profiling in airport screenings", was featured on 8 January 2010, on the University of Illinois web site.

Jacobson provided expert commentary featured in *Will Profiling Make a Difference?* on the New York Times *Room for Debate* web site on 4 January 2010, after the 25 December 2009 terrorist attempt to explode a bomb on the Delta flight from Amsterdam to Detroit. Other quotes by Jacobson on this topic were reported at *Media Matters for America* and the *Keene Sentinel*.

The paper "Evaluating the Impact of Legislation Prohibiting Hand-Held Cell Phone Use While Driving," published in *Transportation Research Part A: Policy and Practice* (Volume 44(3), 182-193) received media coverage following a press release issued on 8 February 2010 by the University of Illinois News Bureau. Media coverage included over one hundred on-line web news sites and newspapers, including [medicalnews.com](http://medicalnews.com), *Research and Development Magazine*, and the *Boston Globe*.

The paper "Seeding in the NCAA Men's Basketball Tournament: When is a Higher Seed Better?" published in *Journal of Gambling, Business, and Economics*, (Volume 3(2), 63-87) received media coverage following the article, "Professor of Bracketology: U of I computer expert's conclusion: 'They call it madness for a reason'" in the *Chicago Tribune* on Sunday, 14 March 2010, and a press release issued on 16 March 2010 by the University of Illinois News Bureau. Media coverage included live radio interviews on *670 The Score*, *WGN Radio*, and the Colin McEnroe Show on *WNPR* (Connecticut Public Radio), as well as numerous on-line web news sites and newspapers, including [msn.foxsports.com](http://msn.foxsports.com), [cacm.acm.org](http://cacm.acm.org), the *Peoria Journal Star*, the *Belleville News Democrat*, and the *Rockford Register Star*, among others.

Jacobson provided expert commentary featured in *How to Improve the N.C.A.A. Tournament* on the New York Times *Room for Debate* web site on 1 April 2010.

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"A *Minute with* aviation security expert Sheldon Jacobson: Changes to airport security screening procedures" was featured on 5 April 2010, on the University of Illinois web site.

"A *Minute with* data expert Sheldon Jacobson: The impact of hand-held cell phone legislation on driving safety", was featured on 26 May 2010, on the University of Illinois web site.

"A *Minute with* aviation security expert Sheldon Jacobson: The future of airport security screening," was featured on 22 November 2010, on the University of Illinois web site.

Jacobson was a guest on several radio and television stations to discuss his research on assessing the odds in the 2011 NCAA Men's basketball tournament (WUIS Public Radio, Springfield, IL; New Hampshire Public Radio; WBEZ, Chicago, IL, WILL Public radio, Champaign, IL; WCIA-TV, Champaign, IL). Interviews were broadcasted between 9 March and 17 March 2011.

"A *Minute with* vaccine economics expert Sheldon Jacobson: The economics of pediatric vaccine pricing," was featured on 21 June 2011, on the University of Illinois web site.

The paper "Evaluating the Effectiveness of Sequential Aviation Security Screening Policies," which appeared in the August 2011 issue of *IIE Transactions* (Volume 43, Number 8, pages 547-565), co-authored with A.J. Lee, was highlighted in *Research Executive Summaries* in the July 2011 issue of *Industrial Engineering*, the monthly professional magazine of the Institute of Industrial Engineers.

The National Science Foundation (NSF) issued the press release (11-184), "From 9/11 to Now: Lessons from the Tragedy," which featured Jacobson and his NSF supported research activities in this area.

"A *Minute with* aviation Security expert Sheldon Jacobson," was featured on 11 September 2011, on the University of Illinois web site. It discussed how aviation security has changed over the past decade, and the future of aviation security.

Jacobson published an opinion letter in *USA Today* on 3 November 2011, responding to *TSA chats address limits of technology*.

Jacobson appeared in the KCCI-TV (CBS affiliate, Des Moines, IA) news special report *Airport Insecurity, Part II* on 18 November 2011.

A *Minute with* Sheldon Jacobson, expert on statistics related to travel, was featured on 19 January 2012, on the University of Illinois web site. It discussed how the recent leveling off of obesity rates may be associated with the leveling off of how much Americans are driving.



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The paper "Addressing Passenger Risk Uncertainty for Aviation Security Screening," published in *Transportation Science*, (Volume 46) received media coverage following the new release *Risk-based passenger screening could make air travel safer*, issued on 31 January 2012 by the University of Illinois News Bureau, in conjunction with the National Science Foundation. Media coverage included live radio interviews on radioislam.com (Chicago, IL), *WFMB-AM 1450* (Springfield, IL), and *WAND-TV* (NBC Affiliate, Champaign, IL), as well as coverage on numerous web news outlets.

*A Minute with Sheldon Jacobson*, on "March Madness", was featured on 7 March 2012, on the University of Illinois web site. It discussed the patterns in how the seeds advance in the NCAA Division I Men's basketball tournament. News coverage included the *Chicago Tribune: Hoops +/- Winners?*, *Business Week: My March Madness Picks (Or 'I Think Data Made Me a Psychic')*, *Discovery News (via MSNBC.com): March Madness bracketology: The science*, *GigaOM*, and *Bloomberg Businessweek*.

Jacobson published an opinion letter in *USA Today* on 30 March 2012, about how the NCAA men's basketball tournament serves as a stimulus for young people interested in pursuing careers in science, technology, engineering and mathematics.

Jacobson was quoted in the news article, "Republicans take aim at TSA, agency is inefficient, too expensive," published on 1 April 2012 in the *Daily News Journal* (Nashville, TN).

Jacobson was quoted in the news stories, "Texting while driving hard to enforce," reported by WLDS-WEAI News (Jacksonville, IL), and "Illinois Lawmakers Debate New Cell Phone Restrictions," reported by CBS (KMOX St. Louis) on 23 April 2012.

Jacobson was quoted in the Reuters news stories, "As America's waistline expands, costs soar" on 30 April 2012. Over 120 national media outlet picked up the story, including *MSNBC*, *CNBC*, *Fox News*, *Huffington Post*, *Forbes*, *Baltimore Sun*, *Chicago Tribune*, *Orlando Sentinel*, *Sun Sentinel*, *Toronto Sun*, *Edmonton Sun*, *Winnipeg Sun*, *Ottawa Sun*, *Calgary Sun*, several public and commercial radio stations, and others.

Jacobson was quoted in the *Wall Street Journal Numbers Guy* blog on 4 May 2012, "The Waiting Game" on how long queues at international customs processing at London Heathrow airport can be improved.

Jacobson was quoted in the Reuters news stories, "U.S. airport security could detect Qaeda device: officials" on 8 May 2012 and "Would-be suicide bomber was U.S. informant" on 9 May 2012. Over 6000 national and international media outlets reported the story, including *MSNBC*, *CNBC*, *Chicago Tribune*, *Baltimore Sun*, *London Free Press*, and others.

The news article "Automobiles can increase obesity, study says," appeared in the *Deseret News* (Salt Lake City, Utah) on 8 May 2012, featuring research that was reported in Jacobson, King, and Yuan (2011).

The news article "RSOs prepare to inform students for Election Day using UI professor's election prediction site," appeared in the *Daily Illini* (Urbana, Illinois) on 22 August 2012, featuring the election forecasting website, [electionanalytics.cs.illinois.edu](http://electionanalytics.cs.illinois.edu).

Jacobson was featured on 24 August 2012, on Science360 radio, [www.science360.gov/radio](http://www.science360.gov/radio) based on his research contributions.

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*A Minute with* Sheldon Jacobson, on "Bracketology", was featured on 11 March 2013, on the University of Illinois web site. It discussed the patterns in how the seeds advance in the NCAA Division I Men's basketball tournament. News coverage included *Bloomberg Business Week*, *Time out Chicago Magazine*, and *WILL Radio Afternoon Magazine*.

The article "Hang Up the Car Keys," appeared in *Cancer Today* (Spring 2013, Volume 3(1), page 57), features research on the interrelationship between caloric intake, automobile use, and obesity, which was reported in Behzad, King, and Jacobson (2013).

A Minute With™ Sheldon H. Jacobson, U. OF I Expert on Data Analytics was featured on 13 March 2014. In addition, The Bleacher Report featured four web videos: Crunching the Number to Reveal the Biggest Potential Upsets in the West Region, Crunching the Number to Reveal the Biggest Potential Upsets in the East Region, Crunching the Number to Reveal the Biggest Potential Upsets in the Midwest Region, Crunching the Number to Reveal the Biggest Potential Upsets in the South Region. USA Today: Dominate March Madness: Tips for a better bracket, quoted Jacobson from the bracketodds web site.

The University of Illinois News Bureau issued the Press Release (17 April 2014), "Study Recalculates the Cost of Combination Vaccines," based on the paper "The Relationship Between Pediatric Combination Vaccines and Market Effects," which appeared in the *American Journal of Public Health*.

The University of Illinois College of Medicine at Urbana released the story (14 May 2014), "Computer Science Points to Holy Grail of Medical Scheduling," based on research on how to schedule residents in internal medicine residency programs. The joint research effort between Jacobson and Janet A. Jokela, MD, has resulted in a software package, RESIDENT, which is being alpha tested at the University of Illinois College of Medicine at Urbana internal Medicine residency program.

Jacobson was quoted in the article, "Airports Have No Way to Screen for Ebola," by Patrick Tucker, which appeared on-line in the *National Journal* on 1 August 2014. Jacobson commented on the challenges of screening for Ebola at airports, the similarities in such screening with aviation security screening, and how prescreening can be an effective strategy in such environments. The story was also featured in the Homeland Security Newswire on 4 August 2014.

The University of Illinois News Bureau issued the Press Release (2 September 2014), "Seatbelt laws encourage obese drivers to buckle up," based on the paper "Seatbelt usage: Is there an association with obesity?" which appeared in the journal, *Public Health*. Coverage included *ABC Radio* (plus many of its affiliate stations) (4 September 2014) and *WCIA-TV 3* in Champaign, IL (8 September 2014).

Invited to write the Op-Ed "Airports should be screening for Ebola the same way they screen for terrorists," for the Washington Post *PostEverything* blog on using aviation security screening to prevent the spread of the Ebola virus in the United States (2 October 2014). This resulted in being quoted in the *Associate Press* article, "Airports, airlines and Ebola: 5 things to know" (4 October 2014), being quoted in the commentary, "A Manhattan Project against Ebola" in the Chicago Tribune (7 October 2014), a live interview on "Weekends with Alex Witt" on MSNBC (5 October 2014), an interview on WAND-TV (NBC, Decatur, IL, 5 October 2014), a live interview on CBC Radio Canada "the Current" (6 October 2014), live interviews on HuffPost Live (6,8,14,17 October 2014), a live interview on WTOP CBS Radio 103.5, Washington DC, 6 October 2014), an interview on WCIA-TV (CBS Champaign, IL, 6 October 2014), and a live interview on CBC TV National News, Toronto, Canada, 11 October 2014).

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Jacobson was quoted in the article, "TSA seizes record number of guns from passengers in 2014," in the *Washington Times* (4 January 2015).

Jacobson was quoted in the article, "Child vaccines out of reach for developing countries, charity warns," on *CBC New Radio Canada* (20 January 2015).

Jacobson's research on obesity and its impact on fuel economy was quoted in the article "Obesity Is Hurting the U.S. Economy in Surprising Ways on *Bloomberg.com* (4 March 2015) and "Walking's worth the (lack of) weight," in the *Pittsburgh Post-Gazette*. (8 March 2015)

A Minute With™ Sheldon H. Jacobson, U. of I Statistics Expert, A Method to March Madness, was featured on 11 March 2015. See also, How to pick a winning NCAA Bracket (YouTube, 11 March 2015), NCAA Tournament 2015: Schedule, Picks, Tips for NCAA Bracket Success (Bleacher Report, 16 March 2015), 12 Tips to Ensure A March Madness Bracket Victory (Buzzfeed, 16 March 2015), How to Build the Perfect NCAA Bracket (Men's Health, 17 March 2015), UI website uses 30 years experience for perfect brackets (CBS WCIA-TV3, 17 March 2015), and What to know: Facts, stats and nuggets about the 2015 NCAA tourney (CBS Sports, 17 March 2015).

Jacobson was quoted in the article, "How Not To Fix Airport Screening" by Patrick Tucker, *Defense One* (2 June 2015). See also "The One Right Way to Solve the TSA Crisis Is Politically Incorrect," in the *Fiscal Times* (4 June 2015).

Jacobson is quoted on the spread of mumps on college campuses (8 October 2015) "College campus outbreaks require timely public health response" in *Infectious Diseases in Children*.

A Minute With™ Sheldon H. Jacobson, U. of I Data Science Expert, Why you should factor driving into your weight loss plan, was featured on 8 January 2016.

A Minute With™ Sheldon H. Jacobson, U. of I Professor of Computer Science, How to improve your chances for a perfect March Madness, was featured on 9 March 2016.

A Minute With™ Sheldon H. Jacobson, U. of I aviation security expert, What should be done about long delays for security checks at airports? was featured on 17 May 2016.

"O'Hare middle of the pack for security fence breaches", which appeared in the *Chicago Daily Herald* (Marni Pyke) quotes Jacobson on the Associated Press report discussing airport security fence breaches (25 May 2016).

"TSA PreCheck: Will it shorten security lines at airports?" which appeared in the *Christian Science Monitor* (Lucy Schouten), quotes Jacobson on the benefits of TSA PreCheck (25 June 2016).

"After Istanbul, Here's How Airport Experts Want to Protect You at the Curbside" which appeared in *Defense One* (Patrick Tucker) quotes Jacobson on how security can be further hardened, in response to Jeh Johnson's (DHS Secretary) call for more security vigilance at airports and other venues (30 June 2016). See also "How to Improve Airport Security in the Wake of the Istanbul Attack" in the *Fiscal Times* (1 July 2016).

"Trump says Profiling has Protected Israel. It Probably Wouldn't Work Here," which appeared on *fivethirtyeight.com* (Carl Bialik) quotes Jacobson on Israel security profiling and its impact in the United States (28 September 2016).

"This U of I Forecast had Clinton's chances at 100%. What went wrong?" covers the Election Analytics program at the University of Illinois (Chicago Inno) (9 November 2016). See also "How Chicago Tech can Help you Survive This Election" (2 November 2016); "Donald Trump has a 0% Chance of Winning the Election, According to U of I Computer Scientists" (10 October 2016).

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*"Making TSA PreCheck free can save TSA millions: Report"* (Chicago Tribune; Mary Wisniewski) quotes a recent study by Sheldon H. Jacobson, Arash Khatibi, and Ge Yu, on why TSA PreCheck should be offered at no cost to high volume travelers (5 December 2016). See also *"TSA could save money by waving PreCheck fees for frequent travelers, study finds,"* University of Illinois News Bureau (5 December 2016); *"TSA would save millions if PreCheck was free for all flyers, Illinois prof argues,"* Chicago Business Journal (5 December 2016); *"Study Finds making PreCheck free could save millions,"* CBS Radio WBBM, Chicago IL (5 December 2016); *"U of I study says TSA could save money by waiving PreCheck program fees,"* ABC 7 Eyewitness News, Chicago, IL (5 December 2016); *"Making TSA PreCheck free could save millions of dollars, study suggests,"* Los Angeles Times (5 December 2016); *"TSA should drop enrollment fee for PreCheck, Study finds,"* Consumer Affairs (5 December 2016); *"TSA Could Waive \$85 PreCheck Fee and Save Millions,"* Vocative (6 December 2016).

*"TSA Investigating Security Breach at JFK Airport"* (CBS This Morning, New York, NY) quotes Jacobson on the security breach at JFK airport (21 February 2017). See also *"Impact of Airport Attacks on Security"* (WRBL CBS, Columbus, OH).

A Minute With™ Sheldon H. Jacobson, U. of I Professor of Computer Science, *Can data analytics help you fill out a March madness bracket?* was featured on 7 March 2017. See also *2017 NCAA Tournament: Stats facts to know to fill out a March Madness bracket* (Matt Norlander, CBS Sports) (14 March 2017), *March Madness Bracket 2017: Betting Advice, Historical Trends and Predictions* (Paul Kasabian, Bleacher Report) (12 March 2017); *How to hack your March Madness bracket to win* (Samuel Anderson, Best Life) (12 March 2017).

Jacobson delivered two BBC interviews (one radio, one television via skype) on the electronics ban for overseas flights implemented by the DHS (21 March 2017). The radio interview was carried nationwide on NPR (AM) on 21 March 2017. Was also quoted in *What to know about the new airline electronics ban* (CBC Canada News, 21 March 2017), *Here's why the US is banning larger electronics on some overseas flights* (Katie Reilly, Time, 21 March 2017), *Why the airline's electronics ban may not be discrimination* (Patrick Reilly, Christian Science Monitor, 21 March 2017), and *Clamping down on carry-on devices* (CBC Canada News, 21 March 2017).

The University of Illinois issued the Press Release *Study: Higher mass transit use is associated with lower obesity rates*, on 16 May 2017, based on the paper "Analyzing the impact of public transit usage on obesity," which appeared in the *Preventive Medicine* (Volume 99, pages 264-268). See also *Higher mass transit use linked with lower obesity rates* (Amy Wallace, United Press International, 17 May 2017), *Mass transit linked to lower obesity rates in study* (Mary Caffrey, American Journal of Managed Care, 17 May 2017), *What Scientists Found about Losing Weight and Obesity after Observing how People use Public Transportation* (Harold Mandel, EmaxHealth, 17 May 2017), *Using Public Transportation reduced obesity and makes people healthier* (Mihai Andrei, ZMEScience, 17 May 2017), *All Aboard! Next Stop, Less Obesity* (Tom Jacobs, Pacific Standard Magazine, 17 May 2017), *MTA can help you lose weight* (Ariel Scotti, New York Daily News, 17 May 2017), *Using mass transit leads to drop in obesity rates, study finds* (Christopher Maynard, Consumer Affairs, 17 May 2017), *Investing in mass transit helps communities lower their obesity rates, study suggests* (Susan Perry, MinnPost, 18 May 2017), *The MTA can help you lose weight* (John Daniels, The Informer, 17 May 2017), *Higher mass transit use linked with lower obesity rates* (Charmaine Lamabao, NewsLine, 18 May 2017), *Mass transit use correlates with obesity rates* (Todd Gleason, Illinois Public Media News, WILL-AM 580, 19 May 2017), *Green Bay students get a free ride | Our view*, (Green Bay Press-Gazette, 20 May 2017), *Community investment in transit can lower obesity rates*, (Missouri Public Transit Association, 26 May 2017).



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The University of Illinois issued the Press Release *Mass killings happen randomly, yet rate has remained steady, study finds*, on 18 October 2017, based on the paper, “*Random Acts of Violence? Examining Probabilistic Independence of the Temporal Distribution of Mass Murders in the United States*,” which appeared in *Victims and Violence*. Volume 32(6), pages 1014-1023). See also Study Finds Mass Killings Not On The Rise Over Past Decade (TV Report) (Nancy Harty, *CBS Chicago*, 18 October 2017), Mass killings in the US happen randomly - but at a steady rate for the last 10 years, study finds (Cheyenne Macdonald, *Daily Mail (UK)*, 18 October 2017), U.S. Mass Killings Occurring at 'Uniform' Rate, Say Scientists (Peter Hess, *Inverse*, 18 October 2017), Mass Killings are not Becoming More Common (John Hinderaker, *Powerline*, 18 October 2017), Despite Vegas and Media Narrative, Mass Killings Aren't on the Rise “The data doesn't lie.” (Trey Sanchez, *Truth Revolt*, 18 October 2017), Mass Shootings are Not on the Rise, Study Shows (S. Noble, *Independent Sentinel*, 18 October 2017), New Study Says Mass Murders are Not on the Rise in the U.S. (Warner Todd Huston, *American News* 24/7, 18 October 2017), Study finds no spike in mass killings over past decade (Nikki McGee, *Fox Illinois*, 18 October 2017), The One Figure You Probably Haven't Heard About Mass Shootings (Jazz Shaw, *Hot Air*, 19 October 2017), Mass killings rate steady over past decade, but totally random (Seth Augenstine, *Forensic Magazine*, 19 October 2017), Research Finds Mass Killings Are Not on the Rise (*Police Magazine*, 19 October 2017), Study: Despite More Coverage, Mass Killings Not Occurring More Often (Matt Masterson, *Chicago Tonight, WTTW*, 19 October 2017), U.S. Mass Killing Occurring at a 'Uniform' Rate (ACM Tech News, 19 October 2017), Mass killings happen randomly, yet rate has remained steady, study finds (Victoria Ritter, *Gears of Biz*, 20 October 2017), Study Says Mass Killings are Hard to Predict (*Security Magazine*, 23 October 2017), New Research Can Help First Responders (Grant Stinchfield, *NRATV*, 24 October 2017), [Comprehensive data shows mass shootings in America have risen sharply](#) (The Hill, 31 October 2017).

(11 January 2018) “Une conseil: en cas de tempete ne utilisez pas l'aeroporte JFK” (Maxime Aubin, *French Morning (New York)*) reports commentary by Jacobson on the cause of the bomb cyclone that struck New York JFK Airport.

(30 January 2018) DHS's New Plan for Refugee Screening Looks a Lot Like TSA PreCheck (Patrick Tucker, *Defense One*) reports commentary by Jacobson on how immigration screening can be conducted using a program modeled after TSA PreCheck®.

(1 March 2018) If US states cannot fund their universities, they must stand aside, which appeared in *Times Higher Education*, discusses the plight of public research universities and offers two solutions, privatization or nationally funded consortia.

(5 March 2018) Who makes the NCAA tournament? Researchers at the University of Illinois can help, based on the paper “Modeling the NCAA basketball tournament selection process using a decision tree” published in the *Journal of Sports Analytics* (Volume 4, pages 65-71). See also Will your team make or miss the NCAA Tournament? New study may already have the answer

(7 March 2018) March Madness Upset Prediction: New Method Using Publicly Available Statistics Outperforms Other Techniques released by the *American Statistical Association*, based on the paper “Identifying NCAA Tournament Upsets using Balance Optimization Subset Selection,” published in *Journal of Quantitative Analysis in Sport* (Volume 13(2), pages 79-93.) See also Saturday Science Edition (10 March 2018, *The Daily Kos*, Chitown Kev).

(9 March 2018) Interview on ESPN Radio 93.5 with Jacobson discussing the NCAA Tournament field selection, bracket-building, and other tournament topics (Jeremy Werner Show, begins at 27:30).

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(12 March 2018) NCAA Basketball: 2018 March Madness schedule, bracket – and how to win a tournament pool as a newbie (*Mic*, James Dennin).

(12 March 2018) March Madness and Bracketology: Cheryl Raye Stout vs The Machine (WBEZ Chicago Public Radio, *Morning Shift* with Tony Saraiba). See also Whose NCAA Bracket Did Better: Cheryl Raye Stout vs The Machine (3 April 2018, WBEZ Chicago Public Radio, *Morning Shift* with Tony Saraiba).

(12 March 2018) Science of Upsets: Prof has formula that doubles your shot (Associated Press, Eddie Pells) appeared in numerous media outlets, both on-line and in print, including the New York Times, Washington Post, ESPN, USAToday, FoxSports, and ABC News. See also That smarts: Buffalo makes the computer look brilliant (16 March 2017, Associated Press, Eddie Pells), NCAA tournament Winners and Loser: TruTV, Sister Jean, Thomas Jefferson and more (19 March 2018, Chicago Tribune, Teddy Greenstein, Phil Rosenthal and Tim Bannon), and Using machine learning in basketball brackets and beyond (Cisco News, Stephanie Chan).

(12 March 2018) March Madness: Analytics are making picking winning brackets easier (USAToday, AJ Perez).

(3 April 2018) Technology holds the key to redistricting reform (Houston Chronicle, Jay K. Ayier (opinion)) draws on research by Jacobson to argue that artificial intelligence and algorithms can help solve the problem of gerrymandering in drawing political boundaries.

(16 April 2018) Local firm Stats bets big on artificial intelligence to gather sports data (Chicago Tribune, Ally Marotti) reports commentary by Jacobson on how artificial intelligence is impacting the value of sports data.

(25 April 2018) Letter: Human error still a part of self-driving cars, which appeared in USAToday (page 5A), discusses how self-driving cars remain subject to human error, through compliance with the framework under which they must operate.

(25 September 2018) So Many Cars: Why American Life Expectancy Falls Short (Mises Wire, Ryan McMaken) cites Jacobson's research on the association between obesity and automobile use.

(28 November 2018) Study: Public transportation use linked to better public health, which discussed Sheldon H. Jacobson's research on the association between obesity and public transportation. was featured by Medical Xpress, mymedicalmantra, Daily Illini, de Beaumont Foundation (in the news), and Science Magazine.

(29 January 2019) Lower obesity rates linked with public transportation use, study shows (University of Illinois College of Engineering). Also appeared in Medical Xpress, Scienmag, News Medical, Health Medicine Network, Courier Journal, Science Daily, The Asian Age, Business Standard, Deccan Chronicle, The News Wheel, NDTV, Family Health Tale, Med Public Health Management, Tree Hugger, AASHTO Journal, Friends of White Flint, Knowridge Science Report, The Hindu, Fit Society (The Netherlands), About Cancer Service, Pour Quoi Docteur (France), Aponet (Germany), GEO (Germany), Regenbogen (Germany), Today (Italy), Maximitalia (Italy), Beritagar (Indonesia). See also Could riding the subway help you lose weight? (29 January 2019, New York Post, Kirsten Fleming), Public transportation may help you lose weight but speed of loss is complicated (30 January 2019, Interesting Engineering, Loukia Papadopoulos), Public transportation could affect obesity rates (30 January 2019, Consumer Affairs, Kristen Dalli), Boarding commercial vehicles to work 'may lower' obesity rates (30 January 2019, The Cable, Stephen Charles Kenechukwu), Want to lose weight? Give public transportation a try (30 January 2019, Mobility Lab, Paul Mackie), Wanna shed those calories? Try this new unheard trick! (30 January 2019, Prokerala, Paul Mackie), The use of public

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transportation is now directly linked to low obesity rates (31 January 2019, *Industry Journal*, Aniket Tak), Anyone who travels by Bus or train, remains slim (1 February 2019, *Family Health Tale*).

(17 March 2019) Op-ed, "Bracketology isn't just for March Madness. It can save lives, save money and solve problems," published by Jacobson on *foxnews.com*.

(18 March 2019) "Can analytics help you win your NCAA tournament pool? Don't bet on it" (Michael Weinreb, *Yardbarker*) quotes Jacobson on the challenges of picking good brackets. See also "Heart, loyalty and hunches: How people pick their NCAA brackets." (Rich Trometta, Northeastern University).

(20 March 2019) "Illinois professor creates women's NCAA Tournament simulator," (Doug Feinberg, Associated Press) features the Women's Basketball tournament simulator launched at bracketodds by Jacobson. The story appeared on-line and in print in numerous outlets, including *Washington Post*, *New York Times*, *Chicago Tribune*, *San Francisco Chronicle*, *USAToday*, *Minneapolis Star Tribune*, *Daily Herald* (Chicago), *News Day*, *Charlotte Observer*, *Seattle Times*, *Washington Times*, *Miami Herald*, *The Score*, and others. See also "An Illinois Professor has developed the first ever NCAA women's Tournament simulator" (21 March 2019, Vinciane Ngomso, *Yahoo Sports*) and "100 trips through a NCAA women's bracket simulator" (22 March 2019, Alex Simon, *High Post Hoops*).

(26 March 2019, Kevin Stankiewicz, *Columbus Dispatch*) "The Columbus man behind the last remaining perfect NCAA bracket" quoted Jacobson on the likelihood of the remaining games also being correct.

(3 April 2019, Michael Locklear, *CBS 2 KUTV*, Salt Lake City, UT) "Airport officials, TSA to talk prevention following security breach, attack." quotes Jacobson on security breach at Salt Lake City International airport.

(9 July 2019, *Coastal Daybreak* with Ben Ball, WTKF FM107, Morehead City, NC) Interview with Jacobson on the Supreme Court opinion on gerrymandering and how algorithms can be used to address the problem.

(6 August 2019, *Cleveland Daily Banner* (TN), Tim Siniard), TRAFFIC! Walkable, bikeable cities becoming future options quotes Jacobson's research associating public transit usage with lower obesity rates.

(17 August 2019, Anthony Lopez, *Psychology Today*) "Are Mass Shootings Becoming More Common?" quotes Jacobson's research on trends in mass killing in the United States.

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(20 January 2020, Kim Bellware, *The Washington Post*) "TSA reports record number of guns caught at airport security checkpoints in 2019" quotes Jacobson on the TSA's report of finding firearms at airport security checkpoints. See also *The Crime Report*, *The Anchorage Daily News*, *The Philadelphia Enquirer*, *Seattle Times*, *The Boston Globe*, *Minneapolis Star Tribune*, *SF Gate*, *Australian Financial Review*, *The Patriot Ledger*, *FairWarning*.

(21 January 2020, Chloe Hadavas, *Slate*) "So How Concerned Should We Be That TSA Seized Over 4,000 Guns Last Year?" quotes Jacobson on the TSA's report of finding firearms at airport security checkpoints. See also *The Dallas Morning News*.

(5 February 2020) "Bracketology 101: Five experts weigh in on Illini's seed." mentions Jacobson's seed projection for the Illini on the *bracketodds* web site (Scott Richey, *Champaign News Gazette*). See also *Illinois men's basketball bracketology 101: 11 February 2020*, *Illinois men's basketball bracketology 101: 26 February 2020*, *Bracketology 101: Illini moving up the seed line: 3 March 2020*, *Illini Bracketology 101: Pay attention to the first four: 11 March 2020*.

(3 March 2020) "CDC may lack contact information for some airline passengers possibly exposed to coronavirus" quotes Jacobson on risks to passengers at airport security checkpoints (Sam Mintz, Brianna Gurciullo, *Politico*).

(4 March 2020, Elise Sole, *Yahoo News*) "Coronavirus, Climate Change, Politics: How to Stay Positive in a Negative News Cycle," quotes Jacobson on how data and statistics can be looked at in the right light.

(4 March 2020) "March Madness Bracket Analysis Shows Picking Final Four First Leads to Better Brackets" issued by the American Statistical Association features research co-authored by Jacobson in the *Journal of Quantitative Analysis in Sports*. See also Here's how to win your office March Madness pool, according to science (9 March 2020, John Anderer, *The Ladders*).

(18 March 2020, David Gutman, *Seattle Times*) "Inslee says now not the time for a coronavirus 'shelter in place' order in Washington" quotes Jacobson on the benefits and costs of containment laws in the Seattle area.

(1 April 2020, Liz Ahlberg Touchstone, University of Illinois News Bureau) features Jacobson discussing airport security during the coronavirus pandemic. See also *Podcast: Sheldon Jacobson on Aviation Security* (Scott Beatty, WDWS, Champaign, IL, 2 April 2020), *Brinkwire*, 3 April 2020.

(18 April 2020, *Scripps News Service*) "Risk of Reopening the Country" features commentary by Jacobson on issues to consider when reopening the country.

(20 April 2020, Robert Silk, *Travel Weekly*) "*On the Record* with Sheldon Jacobson" discusses airport travel security during the coronavirus pandemic (page 2).

(27 April 2020, David Koenig, *Associated Press*) "As Fewer People Fly, Rate of Guns Found by TSA in Bags Jumps" quotes Jacobson on why a higher rate of guns is being found by the TSA at airport security checkpoints.

(15 May 2020, John Pletz, *Crain's Chicago Business*) "Ready for another preboarding probe," quotes Jacobson on taking temperatures of passengers prior to boarding a plane at airports.

(15 May 2020, Larry Higgs, *NJ.com*) "Will Murphy's Jersey Shore opening coax tourists out for a summer road trip?" quotes Jacobson on how COVID-19 will impact summer vacation travel in New Jersey.

(19 May 2020, Sam Sweeney, *ABC WJLA7-TV*, Washington, DC) "Post COVID-19 pandemic transportation may include more school buses, lagged work hours," quotes Jacobson on how work travel and school hours may be impacted as the Washington, DC area reopens.



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(30 May 2020, Larry Higgs, *NJ.com*) "[N.J. commuting will change forever as state slowly reopens. Here's what to expect.](#)" quotes Jacobson on how COVID-19 will impact commuting and public transportation.

(10 June 2020, John Pletz, *Crain's Chicago Business*) "Now you'll have to pass a health screening to fly United Airlines," quotes Jacobson on taking temperatures of passengers prior to boarding a plane at airports.

(16 June 2020, Daniel Monk, Brian Niesz, *ABC WCPO9-TV, Cincinnati, Ohio*) "[Flight risk? I-Team tracks local flights from COVID-19 hot zones](#)" quotes Jacobson on Covid-19 risk when flying from areas with high case loads.

(22 June 2020, Matt Zalalnick, *University Business*) "[Why managing risk—and panic—is key to keeping colleges open](#)" quotes Jacobson on managing risk for colleges reopenings in the Fall.

(22 June 2020, Valerie Well, *Herald and Review* (Decatur, Illinois)) "[Millikin's new president coming home for final chapter of professional career](#)" quotes Jacobson on space limitations on college campuses that are incompatible with social distancing.

(28 June 2020, Scott Richey, *Champaign News Gazette*) "[Ten burning questions for Illini Basketball](#)," mentions Jacobson's seed projection for the Illini in the 2021 college basketball tournament.

(30 June 2020, Dennis Dodd, *CBS Sports*) "[Coronavirus in college football: Hospitalizations, deaths projected by data analysts if FBS plays in 2020](#)" quotes Jacobson on projected deaths of college football players if college football returns in the fall.

(1 July 2020, Howie Kussoy, *New York Post*) "[Doctor suggest that players will die if college season starts as planned](#)" reports on Jacobson's analysis of projected deaths of college football players if college football returns in the fall.

(3 July 2020, Mark Lawrence, *Horse Racing Insider*) "[Infectious Prospectous](#)" summarizes Jacobson's analysis of Covid-19 deaths on college campuses in the fall.

(4 July 2020, *Saturday Sports Talk* with Steve Kelly and Loren Tate, WDWS AM1400, Champaign, IL) Jacobson was a guest discussing the start of college football during the Covid-19 pandemic (from 1:21:00 to 1:33:18).

(10 July 2020, *NPR Illinois: Morning Edition*) "[Statewide: College towns and the Coronavirus](#)" Jacobson comments on the town-gown divide and how universities are bringing students back in the fall in the midst of the Covid—19 pandemic (from 17:50 to 25:00).

(11 July 2020, *Inside the Huddle with Ken Hartman*, WILO 96.9FM, Frankfort, Indiana) Jacobson was a guest discussing the start of college football during the Covid-19 pandemic (on second half, from 3:11 to 19:11).

(19 July 2020, Gavin Good, *247Sports*) "'Tremendous Responsibility': Why Illini don't release COVID info" quotes Jacobson on the need to share Covid-19 testing data for the common good.

(22 July 2020, Deirdre Fernandes, *Boston Globe*) "UMass Amherst reopening plan draws sharp criticism from town officials, residents" quotes Jacobson on town-gown relationships as universities reopen in the fall.

(3 August 2020, Dennis Dodd, *CBS Sports*) "[Professor whose alarming Covid-19 predictions sparked #WeAreUnited movement now more optimistic](#)" quotes Jacobson on risk to college football players during Covid-19 pandemic.

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(5 August 2020, Emily Giambalvo, Robert Klemko, *Washington Post*) "College football players fear stigma of sitting out could outlast pandemic" quotes Jacobson's statistics on college football player fatalities.

(10 August 2020, *International Business Times*, Marcy Kreiter) "Gun Seizures at US Airports Triple Compared to Last Year Despite Drop in Air Travel, TSA Says" quotes Jacobson on firearms detected at airports.

(10 August 2020, *The Center Square*, Kevin Bessler) "Professor warns that university towns in Illinois vulnerable for COVID-19 spread" quotes Jacobson on the risk to small university town residents when students return.

(11 August 2020, *247 Sports*, Chris Hummer) "Professor who predicted multiple CFB deaths revises calculation" quotes Jacobson's data analysis on college football deaths.

(11 August 2020, *National Public Radio*, David Shaper) "TSA Finds 3 Times Usual Rate Of Guns At Checkpoints, Despite Drop In Air Traffic" quotes Jacobson findings on firearms missed at TSA airport checkpoints. See also (Robert Silk, *Travel Weekly*, 11 August 2020) "TSA says guns found in carry-ons tripled in July."

(11 August 2020, *Columbus Dispatch*, Rob Oller) "We're looking at a long, cold winter without football to sustain us" quotes Jacobson's data analysis on college football deaths.

(12 August 2020, *Bloomington Herald Times*, *Indianapolis Star*, *Hoosier Sports Report*, Jon Blau) "Professor questions whether Big Ten needed to shut down fall sports" quotes Jacobson's data analysis on college football cancellation.

(13 August 2020, *Cleveland.com*, Nathan Baird) "Behind the Big Ten's decision to cancel football lurks this rare heart condition linked to coronavirus" quotes Jacobson's data analysis on college football deaths.

(15 August 2020, *Minneapolis Star*, Marcus Fuller) "Pros are proving the bubble can work; is college basketball next?" quotes Jacobson on the value of team bubbles to facilitate playing college basketball during the Covid-19 pandemic.

(16 August 2020, *Lexington Herald Leader*, Jerry Tipton) "Would playing a 2020-21 college basketball season be a Titanic mistake?" quotes Jacobson on team bubbles for college basketball.

(17 August 2020, *The Verge*, Nicole Wetsman) "College towns brace for a new wave of Covid-19" quotes Jacobson on threats to local residents in college towns as student return to campus.

(17 August 2020, *Journal Courier*, Rochelle Eiselt) "Insider Exclusive: College towns could see new wave of virus cases, Professor says" quotes Jacobson on the risk to college towns as student return to campuses in the fall.

(26 August 2020, *Insider*, Kelly McLaughlin) "The University of Illinois COVID-19 testing plan is so aggressive that it accounts for 20% of the state's tests" references statistics reported in the *Chicago Sun Times* op-ed by Jacobson and Jokela.

(27 August 2020, *Vanity Fair*, Bomani Jones) "College football players are unpaid stars on the field – and have no power off it" references Jacobson fatality risk for college football players.

(29 August, *Fortune*, Lee Clifford) "One university may have the best COVID testing operation in the U.S. – and tests students twice a week" references statistics reported in the *Chicago Sun Times* op-ed by Jacobson and Jokela.

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(3 September 2020, *Crain's Chicago Business*, Jon Asplund) "[Return of college students strains COVID contact tracing in one place](#)" quotes Jacobson on the challenges of contact tracing.

(5 September 2020, *Salt Lake Tribune*, Josh Newman) "[Could Utah and the rest of the Pac-12 play the upcoming basketball season in a bubble?](#)" quotes Jacobson on bubbles and pods for enabling college basketball this year.

(15 September 2020) *WAMC News Podcast – Episode 137 with Ian Pickus* features Jacobson on the opening of college campuses.

(16 September 2020, *Chicago Tribune*, John Kielman) "[As other states play high school football, Pritzker says COVID-19 makes the sport still too risky for Illinois](#)" quotes Jacobson on the risks of playing college and high school sports this fall.

(18 September 2020, *Good Morning America*, ABC Network, Gio Benitez) "[Last minute deals entice travelers](#)" quotes Jacobson on the challenges of social distancing on airplanes.

(29 September 2020, *New York Times*, Janet Morrissey) "[Using Technology to Tailor Lessons to Each Student](#)" quotes Jacobson on the value of technology-driven personalized learning.

(12 October 2020, *The Morning Call*, Michelle Merlin) "[Kutztown university grapples with pandemic exodus of 1,000 students, \\$3.5 million budget hit](#)" quotes Jacobson on colleges dealing with COVID-19 cases and the town-gown relationship.

(26 October 2020, *NPR Marketplace Tech*, Molly Wood) "[Is the pandemic an opportunity for more personalized learning?](#)" features Jacobson on the future of artificial intelligence for personalized learning.

(26 October 2020, *KGO-TV7 (ABC)*, San Francisco, CA, Michael Finney, Randall Yip) "[Consumers worry about holiday delivery delays as shopping moves online amid pandemic](#)" quotes Jacobson on e-commerce shipping challenges during the holiday season.

(28 October 2020, *Associated Press*, Dave Collins) "[Rising infections complicate rules for New York-area travel](#)" quotes Jacobson on state travel restrictions due to COVID-19.

(9 November 2020, *New York Times*, Shawn Hubler) "[Thanksgiving Will Soon Empty Campuses. Will Students Bring Coronavirus Home?](#)" quotes Jacobson on students departing college campuses for the holiday break.

(11 November 2020, *KGO-TV7 (ABC)*, San Francisco, CA, Michael Finney, Randall Yip) "[Fears of holiday gift shortages may be unfounded.](#)" quotes Jacobson on the goods supply chain remaining strong during the holiday season.

(19 November 2020, *New York Daily News*, Theresa Braine) "[More people are dying in U.S. this year than last year, even without COVID: studies](#)" discusses Jacobson's research on excess Non-COVID-19 deaths, published in *Public Health*.

(30 November 2020, *Diverse Issues in Higher Education*, Autumn Arnett) "[Experts Say Higher Education Should Avoid Playing a 'Numbers Game' with COVID-19](#)" quotes Jacobson on COVID-19 risk on college campuses.

(30 November 2020, *WTTW News (Chicago Public Television)*, Amanda Vinicky) "[Study Finds Rise in US Deaths Beyond COVID-19 in 2020.](#)" reports on Jacobson's research on excess Non-COVID-19 deaths.

(15 December 2020, *US News and World Report*, Josh Moody) "[Coronavirus and the College Experience This Spring.](#)" quotes Jacobson on the challenges in higher education during the Spring 2021 semester.

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(16 December 2020, *District Administration*, Melissa Ezarik) "[9 points about school decision-making during COVID from a data expert](#)," provides comments by Jacobson on how to make education decisions in a COVID-19 environment.

(18 December 2020, *Travel Weekly*, Robert Silk) "[TSA has sped up airport tech deployments since Covid](#)," quotes Jacobson on the benefits of new technologies at airport security checkpoints.

(12 January 2021, *Retail and Hospitality Hub*, John Krukowski) "[Would an Amazon-Like Approach Help the Vaccine Rollout?](#)" quotes Jacobson on how to manage the COVID-19 supply chain.

(27 January 2021, *The Daily New York News*) "[Rising Infections make the principles for Touring Within the New York Space Tough](#)," quotes Jacobson on state travel ban to prevent the spread of COVID-19.

(27 January 2021, *Simple Flying*, Andrew Curran) "[TSA Firearms Finds Reach Record Levels Despite Travel Slowdown](#)," quotes Jacobson on TSA reporting higher catch rate for firearms at security checkpoints. See also "[TSA Firearm Detection Rate Doubled in 2020 – But Why?](#)" (*Homeland Security Today*, Kylie Bielby)

(28 January 2021, *Reset*, WBEZ Public Radio Chicago, IL) "[Closing the gap on vaccine access \(Part 4\)](#)" interviewed Jacobson on the COVID-19 vaccine supply chain.

(31 January 2021, *Champaign News Gazette*, Matt Daniels) "[Diving into Bracket Talk for the Illini](#)" provides commentary by Jacobson on college basketball, March Madness, and the Illini.

(1 February 2021, *The Telegraph*, Ed Grenby) "['COVID mindset' blamed as gun seizures at US airports doubles](#)," quotes Jacobson on the cause of higher firearm catch rates by the TSA at airports.

(10 February 2021, *Front Office Sports*, Amanda Christovich) "[College stadiums' role in vaccine distribution](#)" quotes Jacobson on issues related to using sports stadiums for COVID-19 vaccination.

(20 February 2021, *Saturday Sports Talk* with Steve Kelly and Loren Tate, WDWS AM1400, Champaign, IL) Jacobson was a guest discussing the impact of COVID-19 on the upcoming NCAA Men's basketball tournament.

(3 March 2021, University of Illinois Computer Science, Aaron Seidlitz) "Jacobson's Bracketodds research takes the madness out of March" discusses the research behind the [Bracketodds](#) web site. See also

- (16 March 2021, *247 Sports*, Jeremy Werner) "[Podcast Episode 242. The Winning Formula](#)" speaks with Jacobson discussing the analytics of picking winning brackets.
- (16 March 2021, *Fox 32-TV Chicago*) "[Bracket Expert gives advice ahead of March Madness](#)" speaks with Jacobson on trends in picking winning brackets.
- (17 March 2021, *ABC 7-TV, Chicago, IL*)
- (17 March 2021, *WGN 720 Radio*, Anna Davlantes, Chicago, IL) "[Taking the madness out of your NCAA bracket](#)" speaks with Jacobson about the analytics in March Madness.
- (18 March 2021, *WLS 890 Radio, Bruce St. James Show*, Chicago, IL) speaks with Jacobson about March Madness and bracketology.
- (18 March 2021, *Study Finds*, Ben Renner) "[Win your March Madness bracket by filling out your Final Four first.](#)"



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(10 March 2021, *Front Office Sports*, Amanda Christovich) "Will the March Madness semi-bubble really be safe?" quotes Jacobson on the COVID-19 safety protocols in place during March Madness.

(11 March 2021, *Chicago Tribune*, Joe Mahr) "During pandemic, Illinois saw 27% jump in deaths, amongst worst in the US. One reason: There were two waves." Quotes Jacobson in excess deaths due to COVID-19.

(19 March 2021, *WCIA 3-TV*, Abigail Metsch, Champaign, IL) "Website founded by U of I professor helps find 'Bracket Odds'."

(21 March 2021, *City Journal*, John Tierney) "Death and Lockdowns" quotes Jacobson on non-COVID-19 excess deaths in the United States.

(24 March 2021, *Eureka Alert*, Institute for Operations Research and the Management Sciences) "New Research finds seating assignments on airplanes can reduce the spread of COVID-19" based on a paper that appeared in *Service Sciences*. See also

- (24 March 2021, *FOX 32 TV Chicago*, Anthony Ponce) "New research could make air travel safer amid pandemic."
- (24 March 2021, *News-Medical Life Sciences*) "Seating assignments on airplanes can limit the risk of COVID-19 transmission."
- (25 March 2021, *Economic Times (Healthworld)*) "Seating assignments on airplanes can reduce spread of Covid-19, finds research."
- (28 March 2021, *Business Standard*) "Social distancing in flight seat assignment can reduce Covid-19 spread."
- (30 March 2021, *Corporate Travel Community*) "IATA has highlighted aircraft cabins are low-risk for virus spread, now new academic research concurs seating assignments on aircraft can limit the risk of COVID-19 transmission."
- (30 March 2021, *Contagion Live (Infectious Diseases Today)*, Jared Kaltwasser) "New modeling suggests optimal airplane seating to limit COVID-19 transmission."
- (31 March 2021, *WGN 720 Radio*, Chicago, IL, Anna Davlantes) "Does blocking the middle seat on airplanes make passengers safer?"

(6 April 2021, *The New American*, Annalisa Pesek) "Reopening Schools: Are Parents Doing their Homework?" quotes Jacobson on non-COVID-19 excess deaths.

(6 April 2021, *KMBC-TV9 ABC*, Kansas City, MO, Alan Shope) "Researchers believe the office is going to look different when employees return" interviewed Jacobson on how businesses will adjust when employees return to working on-site.

(12 April 2021, *KCBS Radio*, San Francisco, CA) "Ask An Expert with Stan Burger" features Jacobson on how businesses are getting employees back to work.

(27 April 2021, *Yahoo News 360*, Mike Bebernes) "Should colleges require students to get the COVID vaccine?" quotes Jacobson and Jokela's oped that appeared in the *Indianapolis Star* on 8 April 2021.

(12 May 2021, *Business Travel News*, Dawit Habtemariam) "Suppliers Say Staffing Shortages Dragging Recovery." quotes Jacobson on how labor shortages are challenging the travel industry's recovery.

(13 May 2021, *Lidovsky* (Czech Republic) John Radek) "A good servant, but a bad master. Cars make you fat, people don't walk much." Quotes Jacobson's research linking obesity and automobile use.

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(19 May 2021, *US News*, Joshua Moody) "Colleges Requiring a Coronavirus Vaccine for Fall." quotes Jacobson on the benefits of mandatory coronavirus vaccines for college students.

(26 May 2021, *Christianity Daily*, Sarah Mae Saliong) "Protesters Troop to Rutgers University to Rally Against Mandatory COVID Vaccines." quotes Jacobson on the benefits of mandatory coronavirus vaccines for college students.

(10 June 2021, *Washington Times*, Andy Kostka) "Public health experts: Olympics can be held safely, if changes are made." quotes Jacobson on how the 2021 Tokyo Olympics can be held with the threat of COVID-19.

(6 July 2021, WLS-890AM Radio, The Bruce St. James Show) "Will airports become a hotspot of the COVID-19 Delta variant" featured Jacobson as a guest.

(9 July 2021, KMBC ABC9, Kansas City, MO, Alan Shope) "Professor: Bring COVID-19 vaccine to tailgaters during football season" quotes Jacobson on the value of bringing vaccination opportunities to football games.

(10 July 2021, *The Michael Finney Show*, KGO-AM 810, San Francisco, CA) "Beware of Travel Scams" features Jacobson discussing how travel scams are the latest cyber security threats.

(12 July 2021, *Off the Wall*, 1490 AM, The Score, Joey Keeran) featured Jacobson (from 20:52 to 33:21) as their guest discussing the unintended consequences of NCAA NIL (names, images, and likeness) policies.

(20 July 2021, *The Pantagraph*, Bloomington, IL, Lyndsay Jones) "Watch Now: Deaths were up in the U.S., and McLean County, in 2020. Researchers hope to draw attention to reasons other than COVID."

(23 July 2021, *The Center Square*, Scot Bertram) "Research shows deaths spiked early in pandemic, but COVID-19 wasn't only cause."

(26 July 2021, *WJPF Morning Newswatch*, Carbondale, IL, Tom Miller) Interview with Jacobson.

(27 July 2021, *HealthDay*) "Deaths up in 2020, even when accounting for COVID-19".

(29 July 2021, *Scripps Washington Bureau*, Maya Rodriguez) "Researchers examining spike in deaths that were not COVID-related" featured research on non-COVID-19 deaths.

(12 August 2021, *US News*, Josh Moody) "Colleges requiring a Coronavirus Vaccine for Fall" quotes Jacobson on how colleges will manage COVID-19 and vaccination requirements on campus this Fall.

(13 August 2021, *CBS News Market Watch*, Megan Cerullo) "Unvaccinated workers could end up paying \$50 more for health insurance – per paycheck" quotes Jacobson on how unvaccinated pay may pay higher health insurance premiums than those vaccinated.

(30 August 2021, *Salt Lake City Tribune*, Robert Gehrke) "Software can prevent gerrymandering, but will Utah use it?" quotes Jacobson on how computational redistricting can be used to expose gerrymandering.

(28 September 2021, *Arkansas Democrat Gazette*, Lara Farrar) "Double Doozie: Doctors brace for impending flu season, dual outbreaks of covid, influenza" quotes Jacobson on the upcoming seasonal influenza and its potential severity.

(12 October 2021, Editorial, *Saltwire Network*) "Thank you, Carey Price, for netminding mental health." quotes from Jacobson's opinion in the *Montreal Gazette*.

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(1 December 2021, *Yahoo News* 360, Mike Bebernes) "Will travel bans help against Omicron?" quotes the Jacobson and Jokela Op-Ed that appeared in *The Hill* on 29 November 2021.

(13 December 2021, *WFMJ, NBC TV-21*, Youngstown, OH, Matt Stone) "Is COVID 'herd Immunity' still attainable" quotes Jacobson based on his essay that appeared in the *Cleveland Plain Dealer*.

(17 December 2021, *Washington Post*, Katherine Shaver and Lori Aratani) "Millions plan to travel for Christmas and New Year's as omicron spreads." Quotes Jacobson on travel risk with omicron.

(21 December 2021, *CNBC*, Monica Pitrelli) "Rethinking your travel plans? If you go, experts offer 4 pieces of advice" quotes Jacobson on air travel risks and precautions.

(23 December 2021, *CNN, Situation Room with Wolf Blitzer*, Brain Todd) "Health experts urge air travelers to take precautions to avoid omicron." quotes Jacobson on air travel risk.

(27 December 2021, *Health Day*, Robert Preidt) "Science shows safest plane seating to cut COVID spread." Also appeared in *US News, UPI, Wisconsin State Journal, Richmond Times-Dispatch, Northwest Indiana Times, Tulsa World, Roanoke Times, Kingsport Times News, Montana Standard, Casper Star Tribune, Lincoln Journal Star, St. Louis Post Dispatch, Arizona Daily Star*, and many others.

(30 December 2021, *Illinois Radio*, Kim Howard) "New study out of U of I looks at the best ways to prevent COVID-19 transmission on airplanes."

(31 December 2021, *Yahoo News*, Michael Martin) "Places 'swarming' with COVID, experts say." quotes Jacobson from his *CNBC* interview.

(1 January 2022, *Eat This, Not That*, Michael Martin) "Places you're mostly likely to catch omicron." quotes Jacobson based on his *CNBC* interview on air travel risk.

(8 January 2022, *Eye on Travel with Peter Greenberg*) "Air Travel Risk" has Jacobson as a guest discussing air travel and the associated risk with COVID-19 (1:30:00 to 1:45:20).

(10 January 2022, *Illinois Radio Network*, Scot Bertram) "Study offers tips to reduce COVID transmission on airplanes." Discusses Jacobson's research on how to reduce COVID-19 risk while flying.

(11 January 2022, *Eat This, Not That*, Michael Martin) "The #1 Place to Not Walk Into Now, Say Virus Experts." quotes Jacobson on the COVID-19 risks at airports.

(13 January 2022, *The Tributary*, Andrew Pantazi) "Jacksonville's redistricting plan risks racial gerrymandering claims, experts say" references Jacobson's gerrymandering research.

(21 January 2022, *Champaign News Gazette*, Matt Daniels) "Bracketology talk about to heat up." Mentions Bracketodds web site projections for the NCAA basketball tournament.

(31 January 2022, *Ace Mind*, Benjamin Lloyd) "Obesity: public transport reduces the risk" quotes Jacobson's research on the association between obesity and automobile use.

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(1 February 2022, 1945, Jack Buckby) “\$29 Trillion and Counting: Is the US Economy Headed for a Debt Crisis?” quotes Jacobson 25 January 2022 Op-Ed in The Hill.

(9 February 2022, Agriculture in America, Mike Pearson) Interviews Jacobson on his recent essay that appeared in The Hill on the impact of higher interest rates on the federal budget and the national debt (appears on the 9 February recording from 12:30 to 20:30).

(13 February 2022, The DePaulia, Jackson Healy) “Meddling in the midterms: How partisan influence in U.S elections chip away at democracy” quotes Jacobson on how gerrymandering weakens democracy.



## **TESTIMONY IN CASES FOR PREVIOUS 4 YEARS**

The following is a list of all other cases in which, during the previous 4 years, I testified as an expert at trial or by deposition:

By Deposition:

- *SecurityPoint Holdings, Inc. v. U.S.*, Case No. 1:11-cv-00268 (Fed. Cl.).